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A HAPPY NEW YEAR!

THE new year opens under conditions favorable to the continuation of the prosperity which prevails in every civilized country. Two years ago there were to be heard in every business center in the world references to the "American crisis," certain economic disturbances which were universal apparently having "come to a head" in connection with some bank failures in New York. But these events only proved blessings in disguise, for the excision of certain institutions—or, what was more important, the wiping out of certain practices—cleared the financial atmosphere and gave a guarantee of a sounder business basis for the future. From that time there has been improvement in financial and commercial markets, hand in hand with recovery from any depression into which industrial conditons may have fallen.

Between nations universal peace obtains. In the industrial world no widespread troubles are to be noted. There is nowhere any political disturbance to check the general progress of the world. On the other hand, a better understanding among nations is the rule, as evidenced by the late Pan American conference at Buenos Aires, and the growing support of The Hague Tribunal. All of these things may not appear at first to have a direct bearing upon industry and commerce, but were the opposite conditions to prevail there would be a different story to tell of the business world.

In the industry and trade represented by THE INDIA RUBBER WORLD the year just closed has resulted favorably, and the prospects for the year to come are favorable. The producers of crude rubber are winning profitable returns, the makers of rubber goods are prosperous, and the demand for such goods shows the consumers, on the whole, to be able to buy freely and at satisfactory prices. The industry, indeed, is showing an increase, and in every department of it there is life, progress and optimism. Happily this state of affairs is an indication of good conditions in other lines of trade, for in these modern days of interdependence one department of human endeavor does not long continue to show advancement if all is not well with the others.

To the patrons of THE INDIA RUBBER WORLD we beg to tender assurances of our continued appreciation, and to wish them all, in whatever land, a Happy New Year!

THE UNITED STATES AND CRUDE RUBBER.

AMERICAN capital promises to become a very important factor in the development of the crude rubber interest—taking the world as a whole—though investments in this field were long regarded with so little interest in the United States. But this apparent indifference to dealing with rubber at first hands was only another illustration of the former American tendency to devote the energies of the nation to building up home interests; to subjugating the land and creating a new industrial world and transportation means to serve every interest of the people.

It is true that citizens of the United States did much in early days to develop and systematize the output of rubber from Pará. It was North Americans who adapted to commercial use the crude rubber shoes made by Indians on the Amazon, even sending down wooden lasts upon which they might form more shapely foot covering than was suggested by the native taste. The exportation of rubber from Pará was organized on a larger basis, whether for American or European consumption, by American capital. When Colombia ranked among the two or three largest producing countries in the world the trade was controlled in the United States of America. The development of the rubber trade of far off Madagascar began in the days when ships from this side of the Atlantic went out to the Far East laden with American prints. But in this new country there was much to do in the way of internal development, and for a while trade abroad, in whatever line, was left for the most part to foreigners.

A notable instance of the change that is coming about is the building by Americans of the town of

Goebilt, in Borneo, solely in the rubber interest. Another is the investment in rubber plantations in the Far East by the largest rubber manufacturing company in the country. Already American india-rubber merchants are established for buying purposes in every primary market of importance, and it has been noted that the largest buying at the recently established rubber auctions in Ceylon has been for American account. Americans are planting rubber in every country in which it grows on this hemisphere; they are interested in such important measures for tapping rubber fields as the Madeira-Mamoré railway; they hold rubber concessions in Africa.

Some of the interests here referred to may be small as yet compared with what some other countries can show in the same fields, but they are of recent development. Moreover, they are not based upon speculation, for the most part, but represent substantial investment. It is only logical that they should become greatly extended, in the near future, in view of the large share of the world's production that is required for American factories. Ultimately we may expect not only to see the rubber consumed in the United States produced under American auspices, but large manufacturing companies controlling the sources of their supplies.

THE AMERICAN DEMAND FOR RUBBER.

THE continued growth in population of the United States of America, as indicated by the late decennial census, is in itself a point of no little importance to the rubber interest as a whole; what is of even more importance is the increasing buying capacity of the American public—something which, while apparent in many ways, is not to be measured by any official census return. The recently announced results by the census bureau of the population for 1910 permit of the following comparison for ten year periods, together with which are given the imports, for corresponding periods, of crude india-rubber, not including gutta-percha, jelutong, balata, or the like:

	1890.	1900.	1910.
Population	62,947,714	75,994,575	91,972,266
Imports (in pounds)	33,712,089	49,397,138	101,078,825

It will be plain from these figures that the increase in the consumption of rubber in the United States has been at a greater rate than the growth of population. It is true that the rubber imported has not all been consumed in the United States, but nearly so. Meanwhile the population in non-contiguous territories which have come under the control of the United States, and not included in the above figures, now exceeds 10,000,000, and these people are becoming users of india-rubber goods. Besides, the exports to rubber manufactures to wholly foreign countries have increased in value, during twenty years, from $1,236,443 to $9,060,895.

Twenty years ago the *per capita* imports of rubber in the United States were less than a half pound; last year, in addition to the large increase in population, the imports *per capita* amounted to considerably more than one pound, and this at a time when the price of rubber was at a higher price than was ever known before. At the same time, there has been a notable growth in America in the use of lower, but useful, grades of rubber, of which no account is taken in the statistics which appear in this article.

But more than this: The typical agriculturist of a large section of the United States two decades ago held his farm under mortgage and was compelled to limit his products to the lowest possible limit, whereas to-day in the same regions the average farmer is a bank depositor, and looked upon as a most desirable customer for automobiles—and rubber tires.

Whatever the rest of the world may show, the conditions of life and business in the United States are most encouraging (1), to producers of crude rubber and (2), to makers of rubber goods.

RUBBER HAS BEEN GOING HIGHER THAN EVER during the past month—at least in the form of aeroplane fabrics.

IF THREE DOLLAR RUBBER failed to bring out a synthetic product commercially available, what higher price will be necessary to bring it out?

WHILE THERE IS NO TRADE MORE PROGRESSIVE than the rubber business, there is none more conservative. Else we should not continue to see "boots and shoes" advertised always as if boots were the more important item, whereas the number of pairs of rubber shoes worn is many fold greater.

HOW IT WOULD HAVE DELIGHTED the late Colonel George Earl Church, could he have lived only a year longer, which would have given him an opportunity to hear of the practical operation of the Madeira-Mamoré railway, which he worked so long and so earnestly to promote. Not only is this important entering wedge into a hitherto almost inaccessible country a reality, but the work of progress of which it is the most tangible representation bids fair to continue indefinitely.

THE AUTOMOBILE SHOWS NOW IN PROGRESS and shortly to be held are on a larger scale and more elaborate and complete than their predecessors; they are sure to be largely attended, and no doubt much business can be directly credited to them. At the same time there are indications that the "automobile shows," as the term is now understood, will soon be a thing of the past—in New York, at least. The streets of this city daily afford a vastly greater automobile show than could be organized in any one building, and it is at once perpetual and constantly changing. Besides, the street show forces the automobile upon the attention of the public, while the indoor shows reach only those persons who can be induced to pay to enter. There may be local automobile exhibitions in many towns for years to come, but not at the direct expense of the makers, as is now the case. Whatever is said here of automobiles applies equally to tires, without which, of course, there would be no automobiles.

SOME OF THE NEWSPAPERS THAT KNOW SO much more about the rubber industry than the people who own the industry and work to keep it going continue to try to connect a certain United

States senator with the new tariff law, with the idea of showing that a rubber manufacturing company is enabled thereby to earn inordinate profits, part of which go into the senator's pockets. The readers of THE INDIA RUBBER WORLD, being an intelligent class, will not care to have more of the details of this rubber nonsense than they may happen to have forced upon them in the daily press, and it will not be repeated here. But one question may be suggested: The rubber companies with which the senator's name has been connected by the press have able competitors of the liveliest sort, who appear to be doing an enormous business, raising and lowering the prices of their goods to meet their ideas of the conditions of trade. Has each of these companies its own tariff making senator, or has Senator Aldrich been working for his own friends and the enemy at the same time?

QUESTIONS NOT YET SETTLED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Being interested in the guayule rubber, I would respectfully ask you to inform me if, after the plant has been cut, it will again grow and bear. If so, how long it will take to bear after it has been cut.

Will the industry augment or decrease, and if on the decrease, what life do you believe it (approximately) to have? Thanking you in advance for your kind attention in the matter, I remain,

Yours, very truly, J. G.

New York, December 13, 1910.

THE FIRST CEYLON RUBBER SALES.

THE periodical auctions of rubber at the Ceylon Chamber of Commerce sales room, of which advance notice was given in THE INDIA RUBBER WORLD, were inaugurated on November 4, with satisfactory results. The offerings were made by five firms, as follows:

	Pounds.
George White, Bartlett & Co. (36 packages)	3,181
E. John & Co. (107 packages)	11,417
Keell & Waldock (16 packages)	1,560
Forbes & Walker (260 packages)	24,098
Somerville & Co (102 packages)	8,786
Total	49,042

It is commented on in connection with this first sale that an initial shyness was evident on the part of buyers, but a good portion of the rubber offered was promptly disposed of. The best prices realized were 4.15 rupees [=$1.35] for sheet from Olympus and biscuits from Keenapitiya; 4.20 rupees [=$1.36] for Neuchâtel pale crepe; and 4.30 rupees [=$1.39] for Sirinivesa and "S. K." sheet. London auction results on the same date, for good to fine Plantation sheet and biscuits were 5*s.* 4¼*d.* [=$1.30¾] to 5*s.* 7½*d.* [=$1.36.8]. Fine Pará at the same date was quoted up to 5*s.* 10*d.* [=$1.42].

Regarding this initial rubber sale, the *Ceylon Observer* remarks how much more successful it was than the initial tea sale under the same auspices, on July 30, 1883, when the offerings included five lots from three estates, totaling 6,629 pounds, of which only 999 found buyers. The tea sales, however, at once became popular, and have grown in extent until they now involve more than half the tea production of the colony.

The *Times of Ceylon* suggests that "practically the same factors which led to the development of the local tea market operate in the case of rubber, the chief of which is the convenient position of Colombo in relation to the big consuming countries. Buyers in these countries, apart from Great Britain, already find it convenient to come direct to Colombo for their supplies, and it was an interesting fact that by far the largest bidder at the first sale buys chiefly for the United States of America. It is only a natural consequence that sellers will put their produce mostly on the Colombo market, as is the case in regard to tea." The principal buyers referred to above were Messrs. C. W. Mackie & Co., of Colombo. The *Times*, in connection with the fact that ten grades of rubber were offered, says: "We trust that before many months the output will have been standardized, with the consequent reduction in the varieties offering."

The quantities catalogued for the second sale, on November 11, were as follows:

	Pounds.
Forbes & Walker	15,390
Somerville & Co	620
E. John & Co	5,414
Keell & Waldock	3,347
George White, Bartlett & Co	813
Total	25,584

The second sale resulted favorably, though at somewhat smaller rates in keeping with the condition of the London market. At the third Ceylon sale, on November 18, the amounts offered by the respective brokers aggregated 18,686 pounds 15 ounces. In no other market is rubber dealt with with such precision as to take account of ounces in weights. The unit of money in Ceylon, however, is very small, so that the price of an ounce can be calculated without going so far into fractions as where the gold dollar is the unit. Every rupee per pound added to the price of rubber means 2 cents, gold, per ounce.

As shown on the statistical pages of this issue, the shipments direct to the United States of Ceylon grown rubber are practically as large as to Great Britain; in addition a considerable amount of the Ceylon rubber shipped to Europe finds its way eventually to New York.

A RUBBER FASHION NOTE.

A CORRESPONDENT, whose sex does not transpire from the pseudonym of "Why Not," writes to an English paper: "I see it stated that a Bond street firm has been greatly taken with a model of an evening gown, in which 'little pieces of mole and flame colored soft rubber tubing' enter effectively into the trimming scheme. But why not go further, and have complete gowns made of rubber? In cases where the husband has, so to speak, put his shirt on 'rubbers,' it seems a nice and equitable adjustment that rubber should supply a garment for the wife. Take gold, for example. What could be better than a costume made of fine plantation sheet rubber, delicately smoked, and ribbed in a manner suggestive of corduroy? Think of its advantages—waterproof, washable, durable, elastic, simple, effective, and inexpensive. Then, again, in the 'hobble-skirt,' how it would obviate the restriction of movement. On account of its elasticity any length of stride could be taken freely, with the additional advantage that the material would tend to bring the foot down again with that smart prevision so desirable in these days of militant suffragism.

"It opens up a vista of great possibilities. The fortnightly auction sales, for instance, would be anything but the humdrum, prosaic institutions which they are at present. Ladies would be certain to figure prominently here. It is not difficult to imagine a City man on reaching home being met by some such outburst as this:

"'Oh, dearest, I secured such a lovely bargain at the rubber sales today! Such a pretty remnant of *Highlands smoked* sheet, at only six and eleven three! I thought it would make up so beautifully for motoring, trimmed with some of the scrappy negrohead I bought at the last sale. It would be so effective and chic, without being in the slightest sense bizarre.'"

THE London licensing authorities have placed their ban upon sectional solid rubber tires for motor 'buses.

"It Is All Part of the Cost of Rubber."

THERE is in prospect a branch of the Madeira-Mamoré railway—regarding which details have appeared recently in THE INDIA RUBBER WORLD—to cross the Madeira river near the *cachuela* Pão Grande, to the bank of the Beni river, above the *cachuela* Esperanca, the line to be about 17 miles long. The little Madeira river newspaper, the Porto Velho *Marconigram*, states that the operation of this short branch line will eliminate 300 odd kilometers [= about 186 miles] of river navigation, in giving an outlet for rubber for the Beni and Madre de Dios rivers, in Bolivia, to say nothing of avoiding the present heavy loss of lives and property.

Regarding the hardships of transportation in the waters to be paralleled by the Madeira-Mamoré railway—and the consequent effect in making rubber costly—the *Marconigram*, in its issue of October 29, says:

"The monetary loss each year from wreck and loss of rubber alone would go a long way toward building the Madeira-Mamoré railway, to say nothing of the toll taken of life due to drowning, disease, and the hardships incidental to the river life.

"Several months ago three *batelãos** of rubber arrived at the head of the rapids of Lower Caldeirão. The *jeffe* in charge decided to shoot the rapids instead of making the portage. Two of the boats were tied up and the third double manned and started through the "Cauldron of the Inferno"—as the name implies. About half way through the boat struck a rock and was wrecked, three of the crew being drowned. The survivors succeeded in reaching shore, and with the addition of several more men from the other boats started down the second *batelãos*. This also was wrecked, but little nearer shore than the first boat, and one man only lost his life in the water, though several others were badly cut and bruised by being tossed against rocks.

"There was still a third boat to be brought down, and, undismayed by their previous loss, this heroic little band of boatmen once more essayed the seemingly impossible, tempted fate a third time, and a third time their *batelãos* went crashing on to a rock. No life paid the penalty this time, however, and all the crew succeeded in reaching shore, some more dead than alive. A little later the partially wrecked boat swung free of the rock and drifted ashore, though a portion of the valuable cargo was lost. The boat was later repaired and, with part of the cargo, which was recovered below the falls, resumed its voyage. It still had three rapids to negotiate before reaching Santo Antonio.

"The loss in this one accident was rubber valued at 300,000 milreis [= $91,230, with exchange at 15 pence], two boats worth several thousand milreis each, and five lives, one of the injured crew dying after reaching shore. Most of the cargo saved was pulled from the water by men other than the boat crew, and to these had to be paid 25 per cent. of the value of the salvaged cargo.

"Below each *cachuela* there is generally found a house, the owner of which gains a livelihood by saving from the river wrecked cargoes of rubber. Some of these men are satisfied with the 25 per cent. allowed by law and custom, and redeem the salvaged rubber. Others, when opportunity offers, cut or burn out the stamp of the original owners, smoke in a patch of new rubber over the mutilated brand, and dispose of the ball at a good figure. The penalty for this, if caught, however, is heavy.

"This is one mention of the many wrecks that occur annually in the perilous stretch of water between Santo Antonio and Guajara-Mirim. At both the Upper and Lower Caldeirão, Girau, Paradao, Pederneiro, and other places where long portages of boats and cargo are made, the bank above high water is dotted with graves.

"The heavy, heart-breaking work of dragging a big *batelão* across country, over rocks, and under a tropical sun takes its toll of life just as much as the swirling rapids.

"Along the smoother stretches of river between the rapids one often sees on the high bank a rude cross, sometimes six feet or more in height. An investigation discloses a small cleared patch under the hills, dotted with the inevitable mounds that seem to mark the path of the Rubber Man everywhere along the river.

"It is all part of the cost of rubber; part of the price of pioneering a newer and better order of things first made possible by such men of the rubber tade as Suarez, Arnold, Picollet, and many others."

* * *

PROGRESS ON THE MADEIRA-MAMORE ROAD.

THE wild rubber country of the Amazon valley continues to yield to the invasion of the engineer, backed by outside capital, lured by the great natural wealth of that region. As early as June last, 88 kilometers of the Madeira-Mamoré railway had been opened to traffic [see THE INDIA RUBBER WORLD, September 1, 1910, page 410], and rubber was actually transported by that line as a welcome substitute for the much obstructed Madeira River. On October 30 occurred the formal opening of an addition of 64 kilometers, making a total of 152 kilometers [= 94.5 miles] ready for traffic. The first train over this whole distance, starting from Porto Velho, and running to "Camp 25"—the station farthest up river—consisted of a locomotive, a third-class car, a buffet car, and two first-class coaches, all of American manufacture. On board were the principal engineering staff connected with the construction of the road, representatives of the contracting firm, and business men of Santo Antonio. The train was decorated with the colors of Brazil and Bolivia, and with them, as the Porto Velho *Marconigram* reports, "the silken folds of the Stars and Stripes—fluttering proudly, as though the far-away Republic was rejocing that in the building of the Madeira-Mamoré she had been given the privilege of thus helping to draw closer together her two sister republics of the South."

By the opening of this last 64 kilometers of railway two more of the dangerous falls of the Madeira have been eliminated in the journey from Bolivia to the Atlantic. One more week of time consumed in the cld *batelao* voyage is cut away. Rubber loaded on cars at Camp 25 in the morning can reach Porto Velho easily on the afternoon of the same day, a journey which has always taken about two weeks to accomplish. At Porto Velho the rubber can be loaded from the cars to ocean steamers and carried, without rehandling, direct to the United States or Europe.

Incidentally, another feature of progress in the Madeira River region is the construction of a telegraph line along the route of the railroad with the idea of reaching Bolivia and connecting with points in that republic beyond the limits of the railway. The train above referred to stopped at the barracks of the Brazilian troops engaged in the construction of the telegraph line, and the telegraph and railway forces were photographed in one group.

THE Firestone Tire and Rubber Co. (Akron, Ohio) have prepared for garage display a wall hanger containing a complete list of tire sizes and the corresponding air pressures; also, of the rims which the different sizes will fit. The Firestone people are building some larger and heavier tires than hitherto, which are interchangeable with present tires on their present rims.

*The *batelão* used in navigating the Madeira and its affluents was illustrated and described in THE INDIA RUBBER WORLD September 1, 1910 (page 413).—THE EDITOR.

India-Rubber in Dutch Guiana.

By the Editor of "The India Rubber World."

FIRST LETTER.

An Amsterdam Promise.—Entering the Suriname River.—Nieuw Amsterdam.—Paramaribo.—A Tropical Holland.—Dutch Negresses.—The "Balata Man."—The Botanic Gardens.—"Hevea" Under Cultivation.—Various Rubber Planting Experiments.

THERE lives in Holland a genial and wealthy Dutchman with large Balata concessions in Dutch Guiana. I came in touch with him through these interests and made him the promise that if ever I came within hailing distance of the Guianas I would look up his partner resident there. This promise came back to me as our boat entered the mouth of the Suriname river and we had the prospect of a day of shore leave before continuing the journey to New York. After a resolve to keep that promise with courteous haste; to do the city in a cab, say How-do-you-do to the Director of Agriculture, to whom I had a letter, and to depart, I gave myself up to the witchery of the morning and the joy of the cool, refreshing breeze that made the air as balmy and exhilarating as a June forenoon in New England.

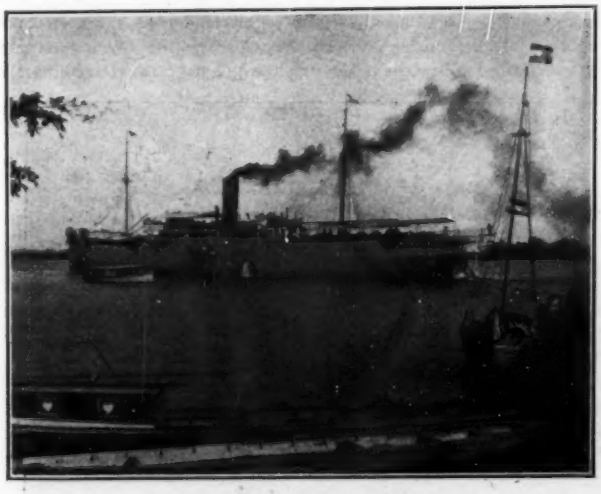
The river is very broad at its mouth and is guarded by a little tub of a lightship that in its gaudy paint adds color to the landscape. One notes at a glance that the country is flat, much like the coast of British Guiana, with the same tropical growths down to the water's edge always flanked by bright green mangroves standing high out of the wash on their myriads of stilt-like roots. The water of the sea as well as that of the river is of a light coffee color suggestive of the Amazon. Indeed it is the Amazon, as far as the sea is concerned, for the ever moving flood of that mighty river turns north as it emerges from the Brazils and follows the coast for many miles until it loses itself in the boisterous Carribean. It is due to this, indeed, that the great alluvial plains in Dutch and British Guiana exist. Beyond the memory of man the great river began its task of transferring the rich soils of the Brazils to the broad shallows beyond French Guiana, and as a result has filled in hundreds of square miles with soil as rich as any in the world.

On either side of the Suriname river one sees the managers' houses, the hospitals, and the coolie barracks that indicate banana, coffee, and sugar estates. A strong tide runs up the river and the tide line is marked by a ribbon of froth that extends from shore to shore, sometimes far up the river, other times almost out to sea. The morning we entered, the fresh water side of this line was spotted and stained for hundreds of yards with tons of mahogany colored fish spawn. The first considerable settlement passed was Nieuw Amsterdam, the gathering place of the great barges of bananas that are there transferred to the fruit steamers. Beyond this and around the slight curve is the city of Paramaribo. Stretched along the river bank, well above the water's edge, it looked very Dutch, very substantial, and wonderfully attractive in its setting of palms and other distinctively tropical trees. That much of the soil had been rescued from the waters was apparent by the glimpses of long dykes and solidly built canal gates that are shut as the tide rises and opened as it ebbs, thus forever draining the plantations that border the river on either hand up to the foothills. The same system is employed in the town in lieu of sewerage, and what with the wash of the tropical rains and the cleanliness of the people, the city is very healthy and has not had a case of yellow fever in more than fifty years, except as such as are brought in by visiting vessels from some less fortunate port. We passed safely the menace of the ancient Dutch fort that still frowns in grimness; had a fine view of the Government building, club house, and many warehouses that line the river front, and paused about two rods from the pier until the tide should rise high enough to float us up. We reached it at last, and after a conscientious customs man had examined with great care the small handbag containing only pajamas, toilet articles, and a single change of clothing, we were allowed to go ashore.

Instead of the usual crowd of clamorous cabbies anxious for employment, were only a few Dutch negro porters who said "Yes" to everything we asked, and walked us through the city streets to one hotel which was full, and then to another where we secured rooms and breakfast.

The city was fascinating in that it was different to anything in tropical America. The two and three story houses, painted white, with green blinds, the red tiled roofs, and the store signs all in Dutch, suggested a still, moist, tropical Holland. Then, too, the dresses of the black Dutch women. Huge stiff gowns, with short kimono-like capes. The skirt fitted over a great padded hoop passed around the body under the armpits making the wearer appear often humpbacked and always very short waisted and unwieldly. The garments of the brightest colors imaginable, stiffly starched and scrupulously clean, were worn with exaggerated pride.

The negresses also wear turbans, usually made of the same material as the dress, and the turban, or rather the way in which it is worn, is exceedingly informing. If the wearer is out calling



ENTERING THE SURINAME RIVER.

HARBOR AT PARAMARIBO.

OUR HOTEL.

peacefully and amicably it is worn one way; if an enemy approaches whom she desires to "cut," it is quickly shifted to another angle, and so on with many variations, all of which are as plain as print to the initiated.

Not having seen any horses, I ordered a carriage with considerable doubt, but it came, and I drove to the home of the head of the Agricultural Department. Once there I found that the man I sought was in Holland and his temporary successor was indisposed and politely begged me to call on the morrow. Reflecting that the morrow would see me on my way to New York I drove to the home of the Balata Man. Here I got a surprise. The Amsterdam partner had written about me, and I had been expected for two years. I must come to dinner that night and go over to the club and hear the music after it. Not only that but my plan for leaving the next day was out of the question. There were rubber plantations and all sorts of interesting things to see, and almost before we knew it the Balata Man was aboard the steamer, all of our luggage was chalk-marked by a polite official, and we had agreed to stay and were glad of it.

The Balata Man was apparently about fifty-five years old, erect, with black hair just beginning to silver, keen blue eyes, and was

MAAGDENSTRAAT (MAIDEN'S STREET.)

as florid and vigorous as an Englishman, and as hospitably generous as a Western American. Very much the man of the world, he spoke English, German and French in addition to his native Dutch, and besides this was an LL.D. He had been for thirty years in the colony and was reputed to be rich. Beside his balata interests he possessed large plantations, was interested in placer mines and knew much about English and American stocks.

He lived in a substantial brick house, the lower floor of which was given up to a spacious private office for himself, together with offices for a number of industrious secretaries and assistants. The floor above was presided over by his wife, a graceful, cultured, comely lady, possessed of a full knowledge of all his business affairs and taking a most intelligent interest in the rubber development that was then having its beginnings in the Colony.

We were invited to breakfast, tea, and dinner for every day of our stay and availed ourselves of this privilege many times. With two of his steam launches at our disposal, and the practical planning of host and hostess we were able to see more in a short time than otherwise would have been possible in a month's stay. This was notably so, as they both accompanied us on our trips, visiting the plantations, introducing managers, and incidentally through their wonderfully trained servants supplying most appetizing picnic lunches at frequent intervals.

We paid several visits to the Botanic Gardens, to reach which you go out Gravenstraat just at the end of the beautiful avenue of mahogany trees, by the old burial ground, and take the first narrow dyke road to the right. This leads one right into the midst of the gardens, which are close to the town and very beautiful. One might cover much white paper in describing the

SHOPPING DISTRICT, PARAMARIBO.

"HEVEA BRASILIENSIS" IN SURINAME.

avenues flanked with Royal Palms, clumps of Blue Gum trees, of Giant Bamboos and the great variety of flowering trees, shrubs and vines, but it was rubber we were in search of and rubber that we found. Of *Castilloa* trees, there were the biggest four year olds that I have ever seen, as large as the average eight year old on many plantations. They looked curiously immature in spite of their great bulk, with temporary branches twenty feet from the ground and bulging uneven trunks as if, mushroom like, they had shot up in a single night. It was to the *Hevea* that I turned, however, for I wanted to see how it grew on drained land of the Suriname type; I had good reason for this desire for it is an open secret that just as the tea planters in Ceylon turned to rubber while tea was still profitable, so the cocoa planters of Suriname are turning to the *Hevea Brasiliensis.*

The first plot examined was some two hundred four year olds, planted on broad dykes that were about twelve feet wide, between which ran drains four feet deep. The trees were planted along the edges of the dykes. The soil was a clayey alluvial, cracked on the surface because of the four weeks of drouth but still holding its moisture, and although the drains were dry the trees bore no evidence of suffering. A few of the best trees were eight inches in diameter, three feet from the ground. Not far from here was another plot of *Heveas*, six to seven years old, where the drainage was from five to six feet. Only two of them had been tapped, the rest being kept as seed producers, and they were certainly doing their duty. This clump was right in front of the long low office buildings where the director and his assistants have their headquarters. In this office they showed us many samples of rubber prepared by them, from the *Brasiliensis,* the *Guyanensis,* and the *Castilloa,* and also gave us some very interesting photographs showing relative growths of trees under different conditions.

An experimental plot that does not exist in many botanical gardens was that of the *Minusops globosa,* the balata tree. These trees are slow of growth and it is not the present plan of the government to attempt to interest planters in their culture. It is possible, however, that some time in the future this planting may be of as much interest as the gutta-percha groves of Java.

A plot of some 200 *Funtumias* with their dark healthy looking leaves and their big green seed pods was also examined, but as these were too young for anything but the lightest tapping no records concerning their productiveness was obtained.

Perhaps the most interesting of the rubber exhibits in the Garden were the 20,000 *Hevea* seedlings, part of them on drained and part on undrained land. The former were so much larger and healthier that the most casual observer could not fail to note the difference. Our guide pointed out a minor leaf disease in them, but declared it was of no importance and that spraying with the Bordeaux solution cured it.

Many planters in view of the failure of *Hevea* seeds that are brought in from the far East, believe they would be much better to import stumps. It will interest them to know that this has been tried. The Botanical Department in Suriname brought in 80,000 stumps from Ceylon and from them secured only 4,000 trees. They learned further that they saved from 50 to 80 per cent. of the seeds that arrived in Suriname in the months of September, October, and November, but of those that came in February, March, and April, they saved only 15 per cent.

General planting in Dutch Guiana dates back certainly 200 years, but rubber planting is only about 12 to 15 years old. There was no thought of it until the disease known as "witch broom" developed on the cocoa, and the Panama and kindred diseases attacked bananas and lessened the profits in those remunerative lines.

About 13 years ago, therefore, the Waterland estate planted nine Para rubber trees, which were grown from a parcel of 100 seeds bought in London. Four years later certain other plantations secured stumps of *Hevea* trees from the Botanic Gardens and set them out. These stumps came from seeds that the government had imported directly from Brazil. In 1905

DUTCH NEGRESSES.

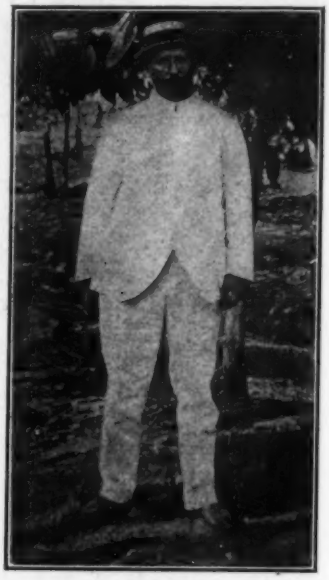
there were about 15,000 planted trees in the colony. The largest planting was 9,000 at Voorberg and 1,000 at Wederzorg. The lapse of another 5 years brings us up to 1910, when 36 plantations had planted *Hevea* and there were 165,000 trees growing.

In the meantime, as soon as the trees matured enough to tap, test tappings were made under various systems, herringbone, spiral and half-spiral, etc., and careful records kept. Measurements were also taken recording the growth of the trees. In the Botanic Gardens eight year old trees averaged 28 inches in circumference, 3 feet from the ground.

At Waterland eight year olds averaged 31½ inches in circumference; 12 year old trees at the same plantation varied from 35½ to 39½ inches in circumference. The latex on an average contained about 30 per cent. of rubber. For coagulation there was used a 10 per cent. solution of acetic acid. The trees here being the oldest in the colony were the first to be tapped. In 1905 they were tapped seven times and about a pound of dry rubber obtained. In 1908 they produced about 2¼ pounds of fine rubber and ½ pound of scrap. The year following they were tapped every other day during the year, and the product was fine rubber 19½ pounds, and scrap 5 pounds, one tree producing about 3 pounds of rubber. It should be remembered that these were the nine original trees planted at Waterland and one had been injured, so only eight were tapped. During my visit other plantations were beginning to produce rubber a little. For example 50 trees on Nieuw Groud produced about 16 pounds.

The Government, which had taken a great interest in stamping out the witch broom and had assisted in establishing banana plantations, was also alive to the colony's opportunity as a rubber producer. It had therefore purchased an old cocoa plantation Slootwijk, and started to plant *Hevea* on quite a large scale. The plantation was excellently situated on the Commewyne river and contained about 1,200 acres. The soil was a stiff clay and ditched so that there was at least three feet of drainage. There were 500 coolies at work and the work of planting 200 acres a year to *Hevea* was going ahead very rapidly. The rubber was interplanted with cocoa, coffee, and bananas, about 100 to the acre, stumps 1½ to 2 years old furnished by the Botanic Gardens being used.

[TO BE CONTINUED.]



THE ASSISTANT "AGRONOM."

SIX YEAR OLD *HEVEAS*, BOTANIC GARDENS, SURINAME.

ONE indication of the progress of the city of Manáos, the rubber capital of the upper Amazon, is the existence there of a well equipped telephone service—the Empreza Telephonica de Manáos. The latest directory of this service, printed on one side of a large sheet, contains the names of 330 subscribers, including all the handlers of rubber in Manáos, the public offices, and leading professional men.

THE desirability of the Liberian coffee tree (*Coffea robusta*) for cultivation in the Federated Malay States has been much discussed of late, and in this connection it is of interest to notice in the Malayan newspapers advertisements of seedlings of this species for planting as a "catch crop" for rubber. One firm reported having orders for 50,000 coffee plants for delivery to rubber growers during October.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

THE changes that have occurred in the last month or so are of a very trifling nature, and it is common for rises and falls to take place without any good reason. As, however, the stock brokers say their only guide is the market price of fine Pará, shares are marked fractions up and down, according to pence movements in the raw commodity, though such movements may only have a remote bearing upon the intrinsic worth of particular shares as investments. The fact is, rather too much is being made of the rubber share market, now that the boom has spent itself, and is not likely to recur at any rate in anything like the same intensity. However, every day we read in the papers, both London and provincial, that rubber shares are dull, lifeless, active, etc., as the case may be, while the amount of business passing may be much less than in the case of other descriptions of shares which are not considered worthy of special mention. By way of keeping the promotion business alive three new planting companies came out in November and were reported to have been favorably received by the public. With regard to two of them, the fact that the whole of the purchase consideration has been taken in cash has been adversely criticised in the press as being indicative of a want of faith in their future. Looking at the general situation on the stock exchange, one may say that the chief feature is absence of speculation and a steady investment demand for the best properties, a tendency which will eventually make the market bare of stock. At the time of writing we are in the buzz and stress of a general election, which has been dubbed on one side of politics as the "Dollar Election." I cannot enlarge on this topic without going beyond my legitimate sphere, but it may be referred to as causing some interruption in business and a diminution of dealings on the stock exchanges. Doubtless, also, it will cause promoters of new ventures to hold their hands for a time.

RUBBER MARKETS.

WOULD it not be more in accordance with the strict truth if brokers and experts, when reporting on the quality of special lots of *Castilloa*, *Funtumia*, and other non Pará rubbers, were to say something about the amount of moisture present? One frequently reads of chairmen of meetings saying that a sample of their African rubber was valued at a higher price than fine hard Pará at the same date. This statement, perhaps without doing any real harm, is certainly apt to mislead the non-technical listener. I believe I am right in saying that in all the cases where this apparent superiority has been shown the special rubber has been practically dry, while the Pará with which it has been compared has contained its usual 20 or more per cent. of moisture. It would not be at all a difficult thing for the brokers or others who make these special valuations in behalf of individuals or companies to make the necessary allowance for the loss in washing so as to make the comparison between African and Pará rubber strictly accurate. Ceará and maniçoba rubber is not coming forward from East Africa as quickly as was expected. In the case of the Jequié company, the drought which was experienced is blamed for the failure of the tapping operations. With regard to these rubbers and their reception by the trade, it may be taken that they will find a good market. With Ceará rubber in the past the position has been much on a par with that of African rubber. The manufacturer was willing to use it if he could be assured of regular supplies. It has been the difficulty in this respect which has militated in the past against the wider appreciation of undoubtedly good brands of rubber. The manufacturer does not want to be always chopping and changing, especially in regard to certain mixings, and I think it may be taken that if good supplies of Ceará rubber are assured this brand will at once find a ready sale. The large amount of nitrogenous substance or protein contained in Ceará rubber compared with other brands does not seem any disadvantage; at least I have not heard of any complaint on this head. At the same time, it can hardly be any definite advantage and no doubt those who are engaged in the coagulation on scientific lines will see to it that this component is kept at as low a figure as possible.

RAW RUBBER.

THIS is a new manufacure for Great Britain; indeed, I believe I am right in saying that it is new to Europe, though one or two continental works make a substance which is said to be practically similar to the American vulcanized fiber which has so far monopolized the market. The new concern of which I now speak is Sutcliffe, Limited, of Crumpsall Mills, Manchester. This is an old-established firm, making certain requirements for the cotton trade their principal specialty, being what are known as cans, which are used in every spinning mill. This firm is the largest maker of these cans in the world, their output being 1,200 per day. This particular industry only concerns us in that the can, which was originally made of metal and, indeed, is still so to a large extent, is now also made of vulcanized fiber in great part, and it was the difficulty experienced in getting suitable supplies of this commodity that led Messrs. Sutcliffe a year or two ago to embark in the manufacture themselves. The new Crumpsall mills which are devoted to this business were erected in 1907-09 and have a floorage of four acres. They are fitted with the most modern machinery and have a capacity of 45 tons per week, though this output has not yet been attained. The goods made represent all those required for the many and various applications for which vulcanized fiber has been found fitted, more especially as a substitute for vulcanite. The electrical industry is probably the largest consumer, for switchboards and the like, and it is being increasingly used in connection with the ignition apparatus of motor cars. For the mechanical engineer the substance is supplied, as journal bearings, thrust bearings, or washers for lathe spindles, brake shoes, rollers, and many specialties for textile mills. Besides the ordinary form, which resembles vulcanite, a flexible form finds a large application for packing, especially in hydraulic presses. It swells when immersed in water and is found useful for pump valves, tap washers, and so on. The old-established American firms can hardly, I imagine, view this new British factory with perfect composure as far as their export trade is concerned. I understand that certain improvements have been made in the manufacture at Crumpsall and that the material is not exactly identical with the original vulcanized fiber which has been on the market for more than 20 years.

VULCANIZED FIBER.

PROFESSOR VICTOR HENRI, of the Surbonne, Paris, has communicated to *Le Caoutchouc et la Gutta-Percha* an interesting article on this subject embodying the results of his experiments made more particularly with regard to balloon fabrics. It is the chemically active or ultra violet rays which exert the deleterious action, an action which has been proved to be simple oxidation. Although I cannot at the moment give the reference, I have an idea that in a general way this has already been shown by an earlier observer, but that does not take all interest away from the present research which was applied to. Thin sheets of rubber, cut sheets of various makes, sheets evaporated from solution, also dried rubber latex, were submitted to the ultra violet rays for a number of hours. In the case of unvul-

ACTION OF LIGHT ON RUBBER.

canized rubber, deterioration set in in 20 hours, while with vulcanized rubber 48 or 72 hours' exposure was necessary. Further, mineralized rubber resisted better than pure rubber. A rather important result was that rubber recovered from petroleum solution was much more rapidly attacked than that which had not been in solution. This is certainly in agreement with the general contention of the manufacturer that extraction processes for raw rubber, *i. e.*, where the rubber is separated from extraneous matter by means of a solvent which is subsequently distilled off, give an inferior product. It also supports the contention as to the superiority of cut sheet over spread sheet for many purposes. Of course, one might easily exaggerate the importance of Mr. Henri's results. They have a distinct bearing upon balloon fabrics, because such are of thin material and naturally much exposed to light. Yet doubtless there are many other applications of rubber even where the material is of much greater thickness that his results point a moral. He recommends that only vulcanized rubber should be used for balloon fabrics, and that the cloth be coated with a yellow coloring matter. Further, he suggests the incorporation of some yellow coloring matter in the rubber itself. I believe I am right in saying that this last suggestion has already been carried out in some other classes of goods; at any rate, a yellow protective coating has been applied to tires. And in the case of one firm, at any rate, it has long been customary to put yellow paint on the windows of the room where a certain important class of vulcanized rubber goods is stored.

PERSONAL MENTION.

DR. W. A. CASPARI, who was at one time engaged in research work at the National Physical Laboratory, near London, and was for a short time a consultant in rubber chemistry, is now head of the laboratory at the Persan-Beaumont (France) works of the India-Rubber, Gutta-Percha and Telegraph Works Co., Limited.

Mr. A. W. Carpenter, sole proprietor of the late Charing Cross Bank, which has recently failed so disastrously, has returned the Alperton Rubber and Vulcanizing Works as one of his assets, though I doubt if they will realize the figure put against them in the provisional balance sheet. At these works Mr. Carpenter has been making a special solid ring tire. The site of the works is near treble, some 12 miles from London, and the buildings have had a rather checkered career. It is now a good many years since they were occupied by the Volenite Co., Limited, about the career of which it would perhaps be unkind to dig up the details at this time of day. Other concerns also found a home there before the tire company took them over and enlarged them. This, of course, is only one of Mr. Carpenter's many commercial activities.

Mr. Alfred du Cros, of Dunlop Tyre connection, has retired from the representation of the Bow and Bromley division, London, in Parliament. He was a Unionist.

A similar step has been taken by Sir Thomas Barclay, the well-known company director. At the last election he was returned as the Free Trade member for Blackburn, which means that he is a Liberal in politics. Sir Thomas is chairman of some rubber plantation companies, as well as of the Premier Reforming Co., Limited.

BALATA IN RUBBER GOODS.

THE article on this subject by Mr. Wilmer Dunbar in the November issue of THE INDIA RUBBER WORLD is of considerable interest because it deals with a topic on which widely diverse views are held, as witness the remarks of the American manufacturer appearing as an appendix to the article. Personally, I am not in a position to add anything of weight to the discussion, and it is a forlorn hope that any British manufacturer will volunteer his views. Outside, the rubber manufacturer, refers to the use of balata in regard to the well-known belting and goes on to make the categorical statement that it has been found to be a good substitute for gutta-percha in the insulation of submarine cables. So far as English practice is concerned I think this is doubtful, though at the same time no definite statement on the point has to my knowledge been made by those who have the secrets of the big cable-making concerns on the Thames in their keeping. For some years an English company has been selling or endeavoring to sell a proprietary substance of very similar characteristics to balata for admixture with raw rubber, and the claims made for this substance as an improver of raw rubber are similar to what Mr. Dunbar claims for balata as a component of rubber mixings. Without professing to be in the secrets of our manufacturer on this point, I think I am right in saying that the addition of balata to rubber goods, such as tires and tubing, is practically unknown. Certainly it has been used in the case of particular steam packing or jointing materials, where the rubber substance is either only slightly vulcanized or not vulcanized at all. The fact that balata has doubled in price in the course of a year or two and the increasing demand for belting purposes is all against its further use in rubber mixings, and then there is the ever-present danger referred to by Mr. Dunbar of pieces of wood or bark still remaining after the washing operation, necessitating very careful examination before use. It is again said that balata can be vulcanized; well, so can fibers and oils, according to trade nomenclature, but compared with the great difference between pure and vulcanized rubber is there any real alteration in the chemical and physical properties in balata after vulcanization?

GUTTA-PERCHA TISSUE PRICES.

BY THE UNITED STATES CONSUL GENERAL AT HAMBURG.

ONE of the principal manufacturers of gutta-percha tissue in Germany states that it is produced only for the American trade, and is not required in Europe at all. It comes in pieces 1 yard wide and usually 10 pounds in weight. The manufacturer referred to does not put it up in rolls of 50 or 60 pounds, but doubtless could do so if necessary.

It is claimed that there is no agreement as to prices between the two leading manufacturers here, and that, in fact, competition is so lively that one of them has been shipping little to the American market for about a year, in consequence of the appearance of new producing concerns in the United States market, where prices have been put down to an unprofitable level.

One firm quoted on October 21, 1910, for direct shipment per kilogram [= 2.2 pounds], grade No. 1 at 90 cents, No. 2 at $1.33, and No. 3 at $1.57. These prices are said to be quite special and subject to sudden change, as the cost of raw materials is very uncertain.

"HEVEA" RUBBER AND SALT WATER.

IN an official report United States Consul Arthur J. Clare, of Georgetown, British Guiana, advises planters of *Hevea* rubber, and investors in planting companies, that great care should be taken in "the location of plantations, as Pará rubber will not give good results on coast lands. To be successful plantations should be far enough up the river to be beyond the influence of salt water."

There is no doubt that this advice is given in all honesty, but it is mistaken. The *Hevea* will flourish on coast land close to salt water, as has been proved in Ceylon, in the Malay States, in Dutch Guiana, and, indeed, all through the lower basin of the Amazon. It is necessary, however, that planters remember that the soil should be rich, that there should never be less than three feet of drainage, and that there should be abundant moisture.

THE Vallambrosa Rubber Co., Limited, report that the amount of rubber harvested for the six months ending September 30, 1910, was 202,200 pounds, against 167,902 pounds for the corresponding period in 1909.

Specifications for the Purchase of Materials—I.

*By Frederic Dannerth, Ph.D.**

PROBABLY the most important work of the chemical engineer consists in devising methods of testing and finding out the various properties of materials which render them valuable and useful; and furthermore the assembling of these various properties in the form of specifications for purchasing. In this important phase of his work he is aided to a considerable extent by the ground which has been covered in years past by our large railway corporations and by the deliberations of such representative bodies as the American Society for Testing Materials, the National Fire Protection Association, and the International Congress of Applied Chemistry. Last, but not least, should be mentioned the extensive specifications for delivery which have been issued by the several departments of our own as well as foreign governments. All the literature issued by the specification bureau of a large corporation does not necessarily pertain *directly* to this subject, although it is a product of the observations made by that bureau. The five more important types of publications thus issued may be defined as follows: (1) Specifications showing properties required, by the purchaser, of materials to be delivered.

(2) Methods for making the chemical analyses and determinations referred to in the specifications.

(3) Methods to be followed in the purchase of supplies.

(4) Instructions to producers and supply houses as to the size of packages, character of the containers, and the mode of delivering supplies.

(5) Instructions to employés, showing methods of mixing ingredients for paints, etc.

(6) Instructions to employés, showing precautions to be observed in the use of supplies, to prevent waste.

In an address delivered several years ago before one of our national institutes the late Dr. Dudley in discussing the plan followed by him and his associates said, "First try to find out what you want." This desire arises from the fact that some difficulty has arisen in the processes or the service of a machine, some parts of constructions fail, or some material at present in use does not give satisfactory results, and an investigation is made to see if the cause of the difficulty can be located; or some product which is being largely used and which is being furnished by *different* makers, is believed not to be of equal quality from the *different* sources; or it is desired to standardize certain practices and make them uniform in all the mills of the corporation. As an element in this last problem, the same quality of material must be furnished and used.

These and other elements lead us to make investigations into the nature of the commercial products involved, and finally result in specifications. The specifications, after being made, are placed in the hands of a purchasing agent, and by him are made a part of the contract on which materials are bought. Shipments of material in accordance with this contract being received, each shipment or specified definite amount is sampled, and the samples examined in accordance with the specifications. If the samples stand the test, the material is "accepted" and paid for; if not, the material is "rejected" and returned to the makers.

The question now arises: "How shall a specification be made?" It is very obvious, after a casual observation of the case, that in every specification two parties are primarily interested—the producer of the material and the buyer or consumer. It has in fact been said that a specification was an attempt on the part of the consumer to tell the producer what he wanted. As a result of this view, our early specifications did little more than define the "qualities of the material." Our modern specifications go beyond this and indicate the method of sampling, state how much material one sample shall represent, and prescribe methods of testing either in whole or in part. The early antagonism of the producer and the consumer later gave way to more weighty questions such as: How much material shall be involved in one test? Would it not be advisable to buy in lots of the same size as the test involves? How shall samples be drawn? Shall the quality of the shipment be determined at the mill where the material is made, or shall it be done after the shipment is received? In the former case an inspector (representative of the purchaser) must be employed.

In many cases it is found that those who ultimately receive the material, such as the storekeeper, or the foreman of a department, can frequently make certain inspections better and cheaper than any one else. Accordingly they must be supplied with proper instructions.

It being thus necessary to incorporate information for a number of different parties, the modern specification has in many instances become rather lengthy, and at times apparently unwieldy. The desire on the part of some manufacturers to deliver the lowest possible quality on a contract, and the endeavor of the testing chemist and testing engineer to enforce the conditions of the specification, frequently give rise to the wish that the specifications had been even more definitely worded. In preparing any specification, the aim should be to incorporate information which may be needed by (1) the manufacturer, (2) the testing chemist, the testing engineer, the inspector, and (3) the persons who are to use the material. On the other hand, care should be taken to eliminate all facts or statements which have no direct reference to the specification in hand.

The remarks just made will no doubt be followed by such questions as: "Should the specification cover the chemical method involved in the analysis of material?" "should it cover the methods of testing?" "should it include complete instructions for the inspector, covering every point?" These questions may be answered by the following statements, or rules:

A specification should not attempt too much nor be too complicated. Well known methods of analysis or methods of testing should be referred to only in a general way.

Well known precautions to be observed by the inspector should not be explained in detail.

New methods of analysis and testing, not well known, must be described in detail, or reference must be made to the original publication.

Analyses such as are not conducted in the same manner by all chemists should be described and issued in separate form and made a part of the specifications.

When drawing up a specification, do not incorporate in it all that you know about that particular subject.

Do not put too many restrictions into the specifications; and state as few tests as are necessary to yield the product required.

Do not make the limits too severe. If you tie the manufacturer down to the extreme limit, you place yourself in a position of absolute antagonism to him.

It is better to specify a good average material, and get the necessary protection in machines and processes by a more liberal factor of supervision and technical knowledge, than to insist on extreme limits, which can only lead to constant friction, and a demand for concessions.

Do not think that the most perfect specimen of a certain product should be made to represent the total output of the works.

*Consulting Chemical Engineer, Philadelphia.

The use of such extreme figures is one of the worst possible mistakes observed in some specifications.

The first step to be taken when preparing to draw up a complete specification is the gathering of information from all available sources. Samples may be gathered from the works, and data attached thereto, stating whether the results obtained from the same were good, fair, or bad. The chemical and physical properties of these samples are carefully noted, along with their price and date of purchase; their quality has of course been decided by actual service.

In certain cases, the service does not give so much information, or it takes a long period to determine which is good and which is undesirable. In such cases, general knowledge is made use of, the resulting specification being designated as "provisional," and the material delivered on it is carefully watched, to see how it behaves. In some cases, direct, positive experiments are made with samples which have been obtained and analyzed, or with material which has already been purchased. In such instances it is of course possible to obtain more complete records than when older samples are analyzed.

Those samples which fail to give good results should be very carefully examined, in order that their objectionable features or constituents may be ruled out when drawing the specifications. In the accumulation of information it is frequently desirable to pay a visit to the parties who make the materials involved, and learn from them as far as possible, the grade or quality which it is *possible* to maintain in commerce, when proper precautions are used. No specification should be drawn before a fair knowledge of the manufacturing process (for the material) has been obtained.

Another important factor which enters into the framing of specifications is the information obtained from experienced men as to the characteristics and the behavior of materials which have been used for many years. As an example of the care taken by representative corporations in conducting all these preliminary investigations it might be stated that the railroad companies frequently work for two or three years before printing final specifications.

After all possible information has been accumulated, it is digested and framed into a tentative specification, strictly omitting an exposition of all the knowledge which has been obtained. If a specification is issued for a hitherto untested material, it may sometimes be necessary to alter the method of manufacture, and if the change is too drastic, the manufacturers of that material may resist any attempt at delivery on specification. This would result in a worse condition, for the consumer may then find it impossible to supply his wants in the market.

After the preliminary specification is drawn, the chief chemist, the mechanical engineer, the general superintendent, and the purchasing agent confer and criticise the draft, making corrections and suggestions, adding at one place and eliminating unessentials at another. The printed copy is now placed in the hands of the foremen of the several departments in the mill where the material is to be used. It is also sent to all those manufacturers of the material involved from whom the purchasing agent desires to buy. In both cases the recipients are asked for the freeest possible criticism (from their standpoint).

It is a matter of frequent experience that certain manufacturers state that their "brand" is a sufficient guarantee, and that they decline to meet specifications; others desire that a particular brand be specified (no doubt, in order to eliminate competition); while still others, who have not perfected their methods of manufacture, would like to see the specifications bent in order to meet the low quality of their product.

THE Peat-Rubber Substitutes, Limited, was registered November 8, 1910, with £500 capital, to deal in the commodity referred to in the title, the registered offices being at 21, Great Winchester street, E. C., London.

A PROPHETIC VIEW OF RUBBER.

[NEW YORK "JOURNAL OF COMMERCE," APRIL 22, 1910.]

THE most conspicuous example of adance in price of an article of common use is that of india-rubber. About that there is no mystery, and yet there is the usual variety of explanations of the cause of higher prices for articles made of rubber. The price of the best grade of Pará rubber in this market in the last few days has reached $2.90 a pound, and in London Ceylon rubber, which is inferior to the Brazil product, has been sold as high as $3.10. In April last year Pará rubber was quoted at $1.26, and in April, 1908, at 84 cents. The cause of this advance has undoubtedly been a large increase in the demand without anything like a corresponding increase in the supply. The president of the United States Rubber Co. is quoted as saying that 60 per cent. of the world's output of this material is taken by the United States and that one-half of this goes into automobile tires.

The great increase in the manufacture of automobiles and the constant demand for new tires for old machines go far to explain the extraordinary advance in the price of the crude material. These tires are said to cost three times as much as they did less than a year ago, but the prices of goods in which the material is a comparatively small item and workmanship a much larger one, show no similar advance, but are affected in varying degrees. The natural effect of the greatly increased demand and high price is to give a strong stimulus to the effort to produce on a larger scale. This is not shown so much in Brazil and other Latin American countries as in the Far East, where plantations are cultivated, and where labor is plentiful and cheap. There it is possible to increase production almost indefinitely, but it requires four or five years' time to bring new plants to the stage of yielding much of the gum.

It is the greatly increased demand, the difficulty of increasing supply rapidly to meet it, and the consequent high price that has stimulated the formation of many new plantation companies and the extraordinary speculation in the shares which has caused so much excitement in London. There is no doubt that this promising, exploiting and speculating has been overdone, and is in danger of reaching a climax that will be followed by collapse, to the destruction of the weaker companies and the ruin of unwary speculators in shares who have ventured beyond their depth. It is not the spirit of investment in the hope of large profit a few years hence that developed this "speculative mania" for rubber shares so much as the gambling spirit excited by the rapid advance in the price of these shares occasioned by the eager desire to obtain them and profit by that same advance.

That lure cannot hold out indefinitely, and when the climax is reached it will be found that many have bought at prices that had no commensurate present or prospective value, and there will be disastrous recessions. The fact will remain that reasonably capitalized ventures with productive plantations in view will reap large profits in time; but the result o fthe increase in supply when the new output is realized must be a fall in prices far below the present level.

KIESELGUHR is the subject of a report by the United States consul at Stavanger, Norway (Mr. P. Emerson Taylor), who states that in job lots of 100 tons of the quality known as "No. 2c. (calcined)," the price will be $14.75 per ton, cash, f. o. b. ship at Stavanger. To this price, however, must be added the cost of sacks, making the total cost per ton $18.13. This is described as being the quality suitable for insulating purposes.

It is reported locally at Webster, Massachusetts, that manufacturing is expected to begin by November 1 by the Webster Felt and Rubber Co. [See THE INDIA RUBBER WORLD, October 1, 1910—page 31.] The machinery is reported to have been fully installed.

Mexican Rubber Plantation Notes.

By a Special Correspondent.

THE favorable growth of trial plantings of *Hevea brasiliensis* in different parts of Mexico has led to serious consideration of the introduction of this genus as supplementary to the indigenous *Castilloa*, and practical commencements are now being made in this direction. On "El Palmar" estates, near Córdoba, lately acquired by a British company and now under the technical management of Mr. James C. Harvey, a planting of considerable extent is to be made with seed imported from the Far East, while on "El Dorado" estate of The Land Co. of Chiapas (Mexico), Limited, a similar venture is being made—in this case stumps having been procured from Ceylon and put into nurseries upon arrival, for planting out in due course.

This latter concern, by the way, has inaugurated an active policy of development, on broad lines, of the immense territory which it owns in the state of Chiapas. In addition to devoting 250 more acres to *Castilloa* (500 acres being now under cultivation), the company is erecting a sawmill on the above mentioned property, excellent timber being abundant on the same and on adjoining lands which the company has reserved for its own purposes. The Pan-American railway passes through the estate, and a station will be built upon it. The present manager of the company, Mr. Cecil J. Wacher, under whose direction all planting operations are conducted, has had some eight years' general agricultural experience on the western ghauts in southern India, and has also been engaged in planting Ceará rubber (*Manihot Glaziovii*) in British East Africa. He is therefore well qualified for the work which is being carried out under his régime.

The Land Co. of Chiapas are experimenting with four varieties of "maniçoba"—namely, *Manihot Glaziovii, M. dichotoma, M. heptaphylla,* and *M. Piauhyensis*—on their "San Vicente" estate, situated about 20 kilometers from Tuxtla Gutiérrez, where the physical conditions seem to be suitable for the same, the elevation being 2,900 feet above sea-level and the rainfall 45 to 50 inches per annum. In other districts the company are planting henequen and going in for cattle breeding, while a new coffee zone is being opened up by the construction of a road from Pijijiapam, on the Pan-American railway, to the town of Miraflores on the eastern side of the Sierra Madre, to the cost of which the company is contributing.

Considerable interest attaches to the present visit to Mexico of Colonel Sir Thomas Hungerford Holdich, K.C.M.G., K.C.I.E., C.B., R.E., F.R.G.S., chairman of the Soconusco Rubber Plantations, Limited, of London, owning the "Doña Maria" estate in Chiapas. Besides having had a distinguished career in the British army as an officer in the corps of Royal Engineers, Sir Thomas has rendered important services to geographical science by his surveys in Afghanistan, for which he was awarded the founder's medal of the Royal Geographical Society. He acted as a commissioner on the settlement of the Argentine-Chilian boundary, and has also done a good deal of literary work, among which may be mentioned an article on Surveying for the new edition of the "Encyclopædia Britannica," which is about to be issued by the University of Cambridge, England. Sir Thomas spent a couple of weeks in the capital, where he was received in special audience by President Diaz, and entertained by the British minister and other prominent persons in the official world of Mexico City. He is now on the plantation, whence he will proceed to Tapachula, on business connected with The Land Co. of Chiapas (Mexico), Limited, of which he is also chairman.

A short time prior to the arrival of Sir Thomas Holdich, Mr. Ashmore Russan, one of the board of directors of the Soconusco Rubber Plantations, Limited, and a well known rubber expert, came out from London on his own initiative with the object of personally investigating the situation. This gentleman found things at "Doña Maria" in so unsatisfactory a condition that he immediately removed the then resident superintendent, who had been appointed by Dr. Olsson-Seffer, the promoter of the company. The latter no longer has any connection with the company, and, as a matter of fact, never did have any legal status with it.

It has transpired that the Amistad Rubber Plantations and Estates, Limited, of London—also promoted by Dr. Olsson-Seffer—does not own the "Amistad" plantation (which was the most important of the group of properties embraced in the flotation, as the name of the company would suggest), that estate having been purchased by American interests some time before Dr. Olsson-Seffer had complied with the terms of the option which he held upon it, or those of the sale which he was then negotiating. It remains to be seen how this *impasse* will be bridged.

Among various rubber plantations in Mexico lately transferred to British owners is that of "La Esperanza," situated near the town of Tierra Blanca, state of Veracruz, and with which Mr. George Cullen Pearson (whose name will be familiar to readers of THE INDIA RUBBER WORLD) was formerly conected. A few years ago the estate became the property of The Mexican Rubber Co., Limited, of London, and Mr. Pearson has since resided in England. Mr. H. E. Levesley, who was associated with Mr. Pearson in this enterprise from its inception, and under whose immediate personal supervision the whole of the development work was done, remained on the estate as manager. During the recent rubber boom in London the property again changed hands (this time to a private individual), Mr. Levesley continuing to act in the same capacity for the new owner. The estate comprises 3,200 acres of land, only a portion of which has been cleared, with some 150,000 planted rubber trees (*Castilloa elastica*), ranging in age from seven to eleven years. Five thousand pounds of rubber were shipped from it last season (tapping from August, 1909, to March, 1910), the best price secured on the London market having been 10*s.* 4*d.* [= $2.48] per pound, when fine plantation Pará was quoted at 11*s.* 9*d.* [= $2.82].

No planter in Mexico has done more conscientious or more efficient work than Mr. Levesley. Due to the thorough care exercised in every detail of its preparation, the rubber which he has turned out has been of a remarkably high grade, as the figures above sufficiently attest; and he has produced some by a special process of his own, without the aid of any coagulant, samples of which were mistaken by a leading firm of brokers in London for fine Pará.

With regard to the revolutionary movement which has lately developed in this country, and of which some very exaggerated reports have been published by certain newspapers in the United States, it may be observed that at this date quiet has been restored, and general confidence is felt in the ability of the administration of President Diaz to effectually suppress any further seditionary action that may be attempted in any quarter. It may be added that where conflicts have occurred neither Americans nor other foreigners have been molested, the discontent manifested being purely political.

Mexico, December 14, 1910.

THE United States consul at Alexandria states that the new Egyptian cotton crop approximates 700,000,000 pounds. The yield last year was about 500,000,000 pounds. The Egyptian government has made a report showing 1,603,266 acres under cotton this year, as against 1,456,187 acres last year.

Rubber Planting in the East.

FEDERATED MALAY STATES RUBBER CO.

CONTINUED improvement in results is shown in the report of Federated Malay States Rubber Co., Limited, S. A. Belge, of Antwerp—the estates of which are in the Federated Malay States—for the fifth fiscal year, ended May 31, 1910, and presented at the annual meeting on October 26. The salient features of the company's reports during the five years may be summarized as follows:

	1906.	1907.	1908.	1909.	1910.
Yield (pounds)	13,322	32,175	66,725	126,512	293,066
Net profits (francs).	74,003	173,980	180,061	645,341	2,129,936
Dividend	5%	8%	8.5%	24%	80%

The average yield per tree tapped (100,758 trees) during the year was 2.9 pounds—without reference to their age or the number of times tapped—against 1.98 pounds, for a smaller number of trees, in the preceding year. In the year 1907-08 the average was 2.6 pounds, but the number of trees in that year was still different. In 1909 the average from 17,148 trees was 5.5 pounds. "The oldest trees" are mentioned as having yielded an average of 9.18 pounds in 1910, against 8.25 pounds in 1909. As pointed out already [see THE INDIA RUBBER WORLD, December 1, 1909—page 85], it would be most desirable if some such company would isolate a certain number of mature trees and inaugurate a record of yield and some system of arriving at the cost of production, to be maintained year by year.

The report says: "A new method of tapping, successfully practised by other estates, has been adopted on our plantations. The trees are now tapped in half herring bone upon a quarter of their circumference, instead of, as formerly, in full herring bone on half of their circumference. The cuts are made 16 inches apart, but their number varies according to the size of the tree. Having convinced himself by experiments made upon other plantations, that the tapping of trees 3½ years old is in no way harmful either to their growth or to their health, Mr. Skinner has introduced this system in our estates."

During the year the capital of the company was increased from 2,000,000 francs to 2,100,000 francs [= $399,000, gold], with the aid of which they were enabled to acquire desirable rubber properties from the Société Financière des Caoutchoucs. Mr. E. B. Skinner, the former efficient manager of the Federated Malay States company, had resigned to become connected with the Financière des Caoutchoucs, but by reason of the new arrangement the Federated company will continue to benefit by Mr. Skinner's great experience.

The Federated Malay States Rubber Co., Limited, in addition to its own production of rubber during the year ended May 31, 1910—293,066 pounds—handled 321,646 pounds from neighboring estates in preparation for market, making a total of 614,712 pounds of rubber prepared by the Federated company. This handling of outside rubber doubtless added to the year's profit of the company, though the report contains no information on this score.

SELLING GOVERNMENT RUBBER PLANTATIONS.

PERHAPS the most widely advertised rubber plantation ever formed has been that of the Indian government at Charduar, in the province of Eastern Bengual and Assam. This was started in 1873 by the conservator of forests, and the details presented in the annual reports of that official found their way in one shape or another into many thousands of newspaper publications, often losing entirely their original form and meaning. It was made to appear often that the Indian government had become exceedingly large producers of rubber. The fact is that the plantation was not formed for commercial purposes, but mainly for scientific study, though of recent years some shipments of rubber well prepared have brought good prices. There are, however, only about 25,000 to 30,000 planted trees on the premises, and these are of the *Ficus elastica* species, which is now less favored for planting than the *Hevea*. At any rate, rubber planting having now passed the experimental stage, the government has decided not to devote further effort to the matter, and the Charduar plantation is offered for sale or lease.

The government *Hevea* plantation at Mergui, Burma, formed during the administration of Lord Curzon as Viceroy of India some ten years ago, was sold recently to Mower, Cotterell & Co. for 2,250,000 rupees [=$729,875]. The original decision was to plant 10,000 acres; how much was actually planted has not been stated recently.

COMPARATIVE RESULTS.

BUKIT Rajah Rubber Co., Limited—Federated Malay States. Business year ends March 31:

	1907.	1908.	1909.	1910.
Yield (pounds)	118,982	163,521	210,081	314,778
Selling price, gross.....	5/3.62d.	3/8.87d.	4/9.84d.	8/6.47d.
Dividends	30%	30%	55%	150%

Trees tapped last year, about 125,000; average yield per tree, 2½ pounds. Total number of trees standing, 290,000. Estimated yield this year, 360,000 pounds. The gross selling price realized gives an average of $5.19 per tree; the disbursement in dividends about $1.50 for each pound of rubber collected.

Vallambrosa Rubber Co., Limited.—Federated Malay States, year ended March 31, 1910:

	1907.	1908.	1909.	1910.
Yield (pounds)	156,922	225,302	281,183	371,316
Selling price, net.....	5/1.5d.	3/7d.	4/8d.	7/11d.
Dividends	55%	55%	80%	250%

The cost of tapping, coning, packing, and transportation is reported at an average of 8.63 pence [=about 17½ cents] per pound.

RUBBER PLANTING IN BURMA.

WRITING from Victoria Point, Lower Burma, Mr. A. B. Snow advises THE INDIA RUBBER WORLD that nowhere else is rubber being planted so cheaply as in that country. He estimates that the cost of planting say of 2,000 acres in *Hevea* and maintenance for five years—at which age the trees should become productive—need not exceed £6 [=$30] per acre. He mentions planted trees five years old and now 27 inches in girth, three feet above the ground, as producing ¾ pound per tree. Transportation facilities are referred to as good and there are telegraph communications. Mr. Snow writes: "The climate is the best I have ever seen."

LABOR IN THE RUBBER FIELD.

REFERRING to the labor situation in connection with rubber culture, Mr. Stuart J. Fuller, for several years United States vice consul general in Hongkong, and who has made a study of Chinese conditions in general, when recently interviewed at Colombo by the *Ceylon Observer*, was of the opinion that the emigration of Chinese laborers to the English colonies would not be opposed by that government when supervised by the British authorities at Hongkong. Mr. Fuller said: "Rubber plantations need never fear for labor as long as they have the Chinese to fall back on. They are very glad, indeed, to go, for they can make more money than at home." Mr. Fuller has lately been appointed United States consul at Gothenburg, Sweden.

THE Fiji *Times* hears that an English syndicate has been formed for the cultivation of rubber extensively in the Fiji Islands.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED NOVEMBER 1, 1910.

NO. 974,124 Tire for vehicles. [Pneumatic, with steel armor.] A. Crowe and J. E. Kinzel, Youngstown, Ohio.

974,134. Tire healing compound. H. S. Griswold, Phoenix, Ariz.

974,158. Life preserver. A. H. Klint, assignor of one-half to S. Bishop —both of San Francisco.

974,178. Tire fastening device. W. B. Owen, Price, Utah.

974,250. Vehicle wheel. [With pneumatic tire.] E. J. Estey, Apponaug, R. I.

974,251. Demountable rim. *Same.*

974,294. Surgical bandage. E. M. Pond, Rutland, Vt.

974,303. Cushion tire. E. C. Shilling, Columbus, Ohio.

974,320. Wheel. [With pneumatic cushion around the hub, and elastic tread.] H. E. Walker, Detroit, Mich.

974,602. Tread for pneumatic tires. J. C. Schleicher, Mount Vernon, N. Y.

974,713. Vehicle wheel tire and rim. S. L. Simpson, assignor to The Simpson Specialty Co.—both of Cleveland, Ohio.

974,714. Fiber tire for vehicle wheels. *Same.*

974,770. Removable rim for vehicle wheels. A. N. Hood, Boston, assignor to Hood Rubber Co.

974,771. Built-up pneumatic tire. P. Trudeau, Santa Ana, Cal.

Trade Marks.

50,805. H. W. Johns-Manville Co., New York city. The letters *J—M.* For brake band linings.

51,154. Imperial Rubber Co., New York city. The word *Irco.* For cotton and rubber lined hose.

51,155. Imperial Rubber Co., New York city. The word *Challenge.* For cotton and rubber lined hose.

51,639. The Vulcanized Rubber Co., New York city. The word *Vulco.* For rubber combs.

ISSUED NOVEMBER 8, 1910.

974,796. Vehicle wheel rim. S. A. Huntley, Kansas City, Mo., assignor of one-third each to G. W. Slater, J. M. Benham, Oakland, Cal., and W. E. Otis, Jr., Reno, Nev.

974,825. Anti skidding device for tires. J. E. Redmond, Butte, Mont.

974,855. Fabric. [Made of strands which have been impregnated with a vulcanizable gum compound.] P. L. Bousauet, Akron, Ohio.

974,861. Tire. [Pneumatic.] B. B. Dawson, Lodge, Va.

975,137. Removable wheel rim for pneumatic tires. R. Kronenberg, Ohligs, Germany.

975,147. Hose reel. S. M. Marshall, Clinton, Mass.

975,207. Tire for road vehicle wheels. R. J. Caldwell, New Southgate, assignor to Pfleumatic (1910) Limited, London.

975,220. Vehicle tire. S. A. Douglas, assignor of one-half to C. L. Anderson—both of Ardmore, Ohio.

975,245. Hose reel. G. M. Hughes, Buffalo, N. Y.

975,258. Pneumatic cushion furniture. W. E. Kurtz, Oakland, Cal.

975,309. Apparatus for vulcanizing rubber boots and shoes. P. J. Wren and F. T. Comee, Woonsocket, R. I.

975,325. Sectional emergency tire. W. Budesheim and J. D. Stinchcomb, Maryland, Md.

975,344. Rubber type base. H. S. Folger, Chicago.

Trade Mark.

51,151. Imperial Rubber Co., New York city. The word *Supreme.* For cotton and rubber lined hose.

ISSUED NOVEMBER 15, 1910.

975,397. Shoe heel. J. Colbert, Arlington, S. C.

975,430. Umbrella carrier. [With main loop member of elastic material.] G. V. Humma and C. M. Hafer, Reading, Pa.

975,453. Wheel for motor and other road vehicles. H. Perrins, Smethwick, England.

975,539. Resilient tire. F. Lamplough, London, England.

975,560. Conveyor belt. W. M. Metzler, Akron, Ohio.

975,616. Ball bearing. H. Hess, Wawa, Pa.

975,693. Metallic casing for pneumatic tires. B. J. Kingston and J. H. Lane, assignors of one-third to L. Northrup—all of Jackson, Mich.

975,767. Demountable wheel rim. R. Healy, Brooklyn, New York.

975,774. Tire inflating pump. C. Lewis, assignor of one-half to H. Wegman—both of Auburn, N. Y.

975,816. Vehicle tire [With floating ring within the shoe.] A. J. Wilson, Westfield, N. J.

975,829. Tire of wheels of vehicles. J. Cairns, Willenhall, England.

975,867. Process of manufacturing sublimed white lead. L. S. Hughes, assigner to Picher Lead Co.—all of Joplin, Mo.

975,873. Hose connection for faucets. B. D. Knickerbocker, Chicago.

975,901. Tire securing device. C. R. Spore, Jr., and J. B. Lang, Moberly, Mo.

976,011. Tire protective armor. A. G. Thomson, assignor of one-half to A. Sutton—both of San Francisco.

ISSUED NOVEMBER 22, 1910.

976,172. Trolley wheel. [Having a rim and a resilient tire of non conducting materials carried thereby.] E. K. Harris, Canandaigua, N. Y.

976,262. Tire repairing device. E. A. Holcomb, Hartford, Conn.

976,359. Process of manufacturing artificial fruit and other plastic objects. F. Hamel, Paris, France.

976,360. Vehicle wheel. [With tire plate seated on cushioning means.] B. W. Hammond, Richmond, Cal.

976,552. Heel for boots and shoes. H. W. Cook, Syracuse, N. Y.

976,591. Resilient wheel. H. E. Moebus, Boston, assignor to H. W. Brown, Brookline, Mass.

976,656. Hose drier. [With a heater for heating air.] F. A. Hoyt, Gordon, Nebr.

976,667. Spring tire. V. A. Marsh, Endicott, Wash.

976,686. Spring wheel. H. P. Petersen, Sioux City, Iowa.

976,710. Vehicle wheel. O. Treier, New York city.

976,736. Tire support. A. C. Hayden, Brockton, Mass.

976,762. Spring wheel. J. A. Wible, Oakdale, Pa.

976,774. Hose carrier. A. P. Bolner, Hartford City, Ind., assignor of one-half to Samuel J. Peck.

976,787. Water tight coupling. W. J. Donnelley, San Francisco.

ISSUED NOVEMBER 29, 1910.

976,840. Sectional pneumatic tube. F. R. Baylis, Lansing, Mich.

976,846. Cushion tread vehicle wheel. H. C. Brown, assignor of two-thirds to H. Stockman—both of New York city.

976,866. Automobile robe. J. P. Gordon, Columbus, Ohio.

976,900. Detachable and sectional rim for vehicle wheels. J. W. Miller, South Sharon, Pa.

976,938. Vehicle wheel. [With elastic tread.] S. L. Simpson, Washington, D. C., assignor to The Simpson Specialty Co., Cleveland, Ohio.

976,969. Quick opening door for vulcanizers. J. K. Williams, Akron, Ohio, assignor of one-half to The Williams Foundry and Machine Co.

976,971. Anti skidding tire. W. R. Yoder, Pittsburgh, Pa.

976,989. Resilient wheel. L. F. Delaney, Watertown, N. Y.

977,195. Vehicle wheel. [With resilient tire.] W. Q. Kennedy, Paterson, N. J.

977,212. Tire clamp. [For pneumatic tires.] B. Morgan, Newport, R. I.

977,238. Automatic trembler particularly applicable to warning apparatus [such as automobile horns]. E. Teste, Paris, France.

977,351. Power tire pump. H. D. Waterhouse, Wollaston, Mass.

977,357. Tire reinforcing fabric and method of making same. C. Zeglen, Chicago, assignor to C. A. Daniel, Philadelphia.

977,368. Spring wheel. Z. A. Bruegger and R. D. Bruegger, Culbertson, Mont.

Design.

41,013. Alexander Henderson, assignor to Manhattan Rubber Mfg. Co., Passaic, N. J. The ornamental design for a mat.

Trade Mark.

51,886. Hood Rubber Co., Boston. The word *Bullseye.* For rubber footwear.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the application, which in the case of these listed below was in 1909.

**Denotes Patents for American Inventions.*

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 2, 1910.]

15,876 (1909). Method of attaching pneumatic tires. J. C. Hudson, London.

15,879 (1909). Device for cleaning golf balls. E. C. Marks, London.

15,893 (1909). Adjustment for rubber cushioned skates. W. Wills, London.

15,964 (1909). Pneumatic tire protector. C. Daniels, Isleworth, Middlesex, and C. Haley, London.

15,965 (1909). Rubber tapping knives. P. J. Burgess, Pinner, Middlesex.

*16,001 (1909). Squeegees. C. Brown, Chicago, Illinois.

16,030 (1909). Golf balls. J. H. Roger, Glasgow.

16,153 (1909). Golf balls. A. Macdonald, Troon, Ayrshire.

16,182 (1909). Pneumatic vehicle spring. W. Keen, London.

16,185 (1909). Non skidding device for tires. W. Ramsden, London.

16,199 (1909). Rubber coated fabrics. G. Gawlich, Breslau, Germany.

16,216 (1909). Pneumatic tire and method of securing same. T. J. McBride, Christchurch, New Zealand.

16,230 (1909). Pneumatic cushioned wheel. T. James, Morriston, Glamorganshire.

16,295 (1909). Pneumatic tire protector. G. G. Johnston, Sydney, Australia.

16,340 (1909). Pneumatic hub cushioned wheel. A. Cheradame, Paris, France.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 9, 1910.]

16,433 (1909). Attaching pneumatic tires. M. H. Smith, Westminster, and L. Sgal, London.
16,540 (1909). India-rubber compositions. E. Poizot, Calvados, France.
16,663 (1909). India-rubber compositions. E. Poizot, Calvados, France.
16,664 (1909). Pneumatic tire for vehicle wheels. W. W. Beaumont, Westminster
16,672 (1909). India-rubber heel protector. J. Markus, Manchester.
16,743 (1909). Rubber heel protector. J. Helliwell, and W. A. Brigg, Keighley, Yorkshire.
16,763 (1909). Pneumatic tire made non slipping and protected against puncture by insertion of rubber, which becomes hard on vulcanization. F. Rose, Liverpool.
16,777 (1909). Rubber packing ring for metallic closures. A. Mauser, Cologne, Germany.
16,918 (1909). Rubber bath brushes. W. R. Blowers, Toronto, Canada.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 16, 1910.]

17,072 (1909). Point protector for hat pins. A. Holcroft and G. A. Boycott, Wolverhampton.
17,249 (1909). Reinforcement for pneumatic tire shoe. T. Cann, Leicester.
17,285 (1909). Rubber protective part for vehicle tires. J. F. F. W. Ure, London.
17,329 (1909). Rubber mud guard for vehicle wheels. H. H. Wright, London.
17,338 (1909). Rubber sheath for bats and other striking appliances. S. Brown, London.
*17,446 (1909). Elastic vehicle tire. G. Gillette, New York city.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 23, 1910.]

17,653 (1909). Rubber tire consisting of flexible rubber tread supported by solid or pneumatic side cushions. W. B. Hartridge, Seaford, Sussex.
17,622 (1909). Elastic wheel with spoke ring supported by india-rubber loops. A. E. Hofmann, Lucerne, Switzerland.
*17,639 (1909). Pneumatic tire with compression cylinders for maintaining the air pressure. A. R. Bangs. New York city.
17,720 (1909). Protected pneumatic tire. E. B. Gaze, Waltham Cross, Hertfordshire.
17,766 (1909). Pneumatic tire strengthened to resist torsion by injection of viscous material. P. Wolfrom, Küps, Bavaria.
17,856 (1909). Elastic tire consisting of rubber blocks enclosed in a cover. R. Basch and S. Basch, London.
*17,924 (1909). Elastic tire with thin metallic casing supported by hollow rubber cylinders. W. R. Stewart, Saltsburg, Pennsylvania, and two others.
*17,930 (1909). Dress shields. T. McKenna, London. (I. B. Kleinert Rubber Co., New York.)
17,944 (1909). Typewriter erasers. H. A. Wanklyn, London.
*18,003 (1909). Rubber cushions for surgical boots and shoes. M. Byrne, San Francisco.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, NOVEMBER 30, 1910.]

18,231 (1909). India-rubber surgical trusses. M. Brook, Huddersfield, Yorkshire.
18,249 (1909). Pneumatic tire with exterior fastening flanges. W. Standing, Dublin.
*18,343 (1909). Solid or pneumatic tire connected to spokes by two-part sliding clamps. A. L. Carroll, St. Louis, Missouri.
18,369 (1909). Fabric for wheel tires. Salzmann & Co., Cassel-Bettenhausen, Germany.
18,385 (1909). Method of attaching pneumatic tires. C. Lees, Ashton-under-Lyne, Lancashire.
18,403 (1909). Elastic cord for punching ball. A. G. Pirkis, London.
*18,441 (1909). Puncture preventing shield for vehicle tires. G. W. Sharpe, Brooklyn, New York.
18,446 (1909). Vehicle tire of rubber blocks secured to metallic plates. G. D. Howard, Catford, Kent.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

415,239 (April 26, 1910). Société des Automobile Françaises. Protective covering for pneumatic tires.
415,247. (April 27). The Akron Pneumatic Tire Making Machine Co. Machine for the manufacture of shoes for pneumatic tires.
415,213 (July 6, 1909). C. P. Barry. Process of recovering the natural caoutchouc contained in manufactured rubber.
415,334. (April 28, 1910). L. J. Huguerre. Process of manufacturing leather agglomerates.
415,481. (May 3). Brown Perfection Tube Co. Improvements applied to air chambers for pneumatic tires.
415,464 (July 12, 1909). M. Bouchet. Portable vulcanizer.
415,494. (May 3, 1910). P. Torchio. Process and apparatus for the manufacture of insulating coverings for electric conductors.
415,542. (May 2). F. Zu Aichburg. Process of manufacturing a substance resembling caoutchouc.
415,659. (May 6). C. J. Walker. Pneumatic tire for road vehicles.
415,954. (May 13). G. A. Pascal. Removable elastic tire for wheels of automobiles and other vehicles.
415,975 (May 14). The Detachable Rim Co., Ltd. Tire for vehicle wheels.
415,996 (May 14). J. Gebrauer. Process for the manufacture of vitreous and mouldable substances, by means of celluloid and caoutchouc solutions.
416,025 (July 27, 1909). De Brach Blustein. Air chamber protection for pneumatic tires.
416,082 (May 19, 1910). Martean d'Autry. Shoe for pneumatic tires.
416,099 (July 29, 1909). O. Grenier. Construction of non pneumatic elastic tire for vehicle wheels.
416,120 (May 19, 1910). The Rubber Patents, Ltd. Improvements in the manufacture of lawn tennis and other similar balls.
416,229 (May 2). I. B. Kempshall. Improvements in elastic tires for automobiles.
416,301 (May 24). E. H. Neefe. Method of treating crude caoutchouc.
416,353 (May 24). R. Lacaille. Protector for pneumatic tires.
416,435 (May 26). Leneven. Elastic tire for wheels.
416,486 (May 28). C. Halin. Hollow elastic tire for road vehicles generally.
416,599 (May 31). J. P. Magney. Elastic tire.
416,570 (May 19). Dr. Cassirer & Co. Process and machine for the manufacture of caoutchouc dress shields.

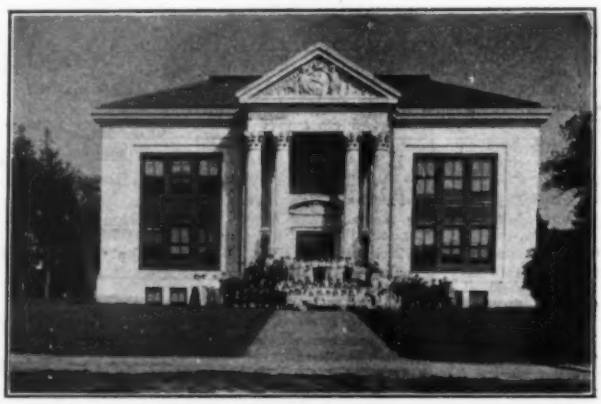
[NOTE.—Printed copies of specifications of French patents can be obtained from R. Robet, Ingenieur-Conseil, 16 avenue de Villier, Paris, at 50 cents each, postpaid.]

RUBBER AND THE CHINESE BANKS.

REFERRING to a recent crisis in Shanghai, which has been widely reported as an aftermath of the rubber boom, the Shanghai journal *Capital and Commerce* points out that the cause of the crisis and the dislocation of the market generally has to be looked into far beyond the rubber speculation of the first few months of the year.

Without going into details, it is to be taken into account that the banking system of China is totally unlike that of European countries or the United States. The number of banks is very great, and the capital usually small. They are started as a rule for the employment in trade of the accumulated money of the depositors. The bankers find it convenient to guarantee and give native orders for goods, generally to brokers, and have an interest in several businesses that come under their purview. Everything goes smooth in ordinary times, and only in times of crises one sees the essentially unbusinesslike methods they are following.

When the rubber boom developed the banks advanced money freely on plantation shares, in some cases much over the market value. Unlike merchandise, which in cases of necessity the banks can sell at a loss, they could realize nothing on some of the rubber shares when the decline came in this class of securities. The government was reported recently to be arranging for loans to relieve the tension caused by the embarrassment of the banks.



COLT MEMORIAL SCHOOL (BRISTOL, RHODE ISLAND).

[Erected in memory of the late Mrs. Theodora De Wolf Colt, by her son, Colonel Samuel Pomeroy Colt.]

THE MILL ROOM

Here the rubber is rolled or milled to give it proper consistency. This is the next step after the cleaning and drying of the crude. In other words this picture shows the manufacture of rubber. Further on, the rubber is patterned into articles of sale, and cured.

This department, representative of the equipment of the plant of the B. F. Goodrich Company, is the largest and most completely equipped Mill Room in the world.

NEW YORK BELTING AND PACKING CO., Ltd.

MANUFACTURERS OF A COMPLETE LINE OF HIGH GRADE

MECHANICAL RUBBER GOODS

Including Cobb's Piston & Valve Rod Packing, Indestructible White Sheet Packing Vulcan High Pressure Spiral Packing, "1846" Para Rubber Belting, Magic Garden Hose, Air Brake, Air Drill, Steam, Suction, Water Hose, etc.

Original Manufacturers of Interlocking Rubber Tiling.

Nos. 91-93 CHAMBERS STREET, NEW YORK

RUBBER BELTING

"SHIELD HIGH-GRADE" BRAND

Every foot guaranteed in strongest possible manner

We make everything in rubber

Our warrant is indelibly stamped upon every Belt to protect the user

Write for Catalog and prices

THE MECHANICAL RUBBER CO., CLEVELAND, OHIO

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE B. F. Goodrich Co. have just issued $2,000,000 of their new 7 per cent. cumulative preferred stock, under the arrangement mentioned in THE INDIA RUBBER WORLD, August 1, 1910 (page 401). The rights of shareholders to subscribe at par for the amount of stock mentioned expired on December 8, by which time the issue had been oversubscribed by $1,600,000. The new preferred sold immediately after issue at 112.

GOODYEAR TIRE AND RUBBER ANNUAL.

THE annual meeting of The Goodyear Tire and Rubber Co. was held in their Akron office on December 5. The following officers were reëlected:

President and General Manager—F. A. SEIBERLING.
Vice-President—CHARLES W. SEIBERLING.
Secretary—G. M. STADELMAN.
Treasurer—FRANK H. ADAMS.
Assistant Treasurer—W. E. PALMER.
Superintendent—P. W. LITCHFIELD.

The board of directors chosen at the shareholders' meeting is the same as last year and is composed of F. A. Seiberling, Charles W. Seiberling, G. M. Stadelman, P. W. Litchfield, Frank H. Adams, James P. Loomis and Henry B. Manton.

* * *

THE First National Bank and the Second National Bank of this city, in both of which the rubber men of Akron are heavily interested, will consolidate under the name of the First-Second National Bank of Akron, with a capital of $650,000, a surplus of $650,000 and deposits of over $5,000,000. Mr. Ohio C. Barber, a director of The Diamond Rubber Co., will be its president.

Mr. Charles B. Raymond, secretary of The B. F. Goodrich Co., after a successful year's work, has resigned as president of the Akron Chamber of Commerce, and Mr. F. A. Seiberling, presiden of the Goodyear Tire and Rubber Co., has been elected as his successor.

Mr. F. A. Seiberling has bought a beautiful tract of land on Portage Path, a suburban boulevard, bordered by homes of rubber manufacturers, upon which he expects to build a home.

Mr. Arthur Leavitt, connected with The B. F. Goodrich Co., and son of Percy Leavitt, of that company, was married to Miss Helen Steiner on November 22.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE rubber goods trade in this city was uneventful during the latter part of the year, as it was the season approaching the holidays, when there is a natural inclination to postpone business activity. But more than this, the extreme scarcity of rain had rendered the waterproof branch very quiet, leading to an unusual accumulation of goods of this class. In the mechanical line, the principal contractors were putting off the question of orders as long as possible, in the hope of a further fall in the price of crude rubber. None of these things has tended to increase business activity and the best that can be said is that all of the establishments are plodding along, holding their own about equally well. Collections, however, are not so quiet that the merchants can complain.

* * *

MR. MILLER, of The B. F. Goodrich Co., is now in San Francisco, and the company has its temporary offices in the Pacific building, until such time as they can occupy the big Market street store, which is being put into shape as rapidly as possible.

* * *

THE Gutta Percha and Rubber Manufacturing Co. are planning to move some time in January, having secured a lease on premises on Fremont street, between Market and Mission. This is close to the location occupied by this firm before the fire of 1906, and they feel like getting home again, although their present quarters at No. 69 First street are not far from the old location. The new place will be more conveniently arranged than their present store, and will give them more floor space also.

* * *

THE question as to what lines of goods the Gorham Rubber Co. will take up, to replace those handled by them hitherto, is one of the most interesting points in the local rubber trade just now. But as Mr. Gorham is at present in New York, along with two other members of the company, it is likely that the uncertainty will soon be over.

* * *

THERE is a rumor that several firms in the tire trade are going to combine their Pacific coast forces with a purpose of operating them under one roof. A similar combination of tire selling forces was attempted in this city a few years ago, but apparently was never successful.

* * *

THE San Francisco branch of The Firestone Tire and Rubber Co. has been moved into the handsome new building erected exclusively for them, at the corner of Van Ness avenue and Fulton street. It is a three-story structure, and is the largest and probably the best equipped tire branch on the Pacific coast.

* * *

THE Consolidated Rubber Tire Co. plan to move into a new, prominently situated, and modernly equipped building during the latter part of January. The company have leased a one-story and basement building now under construction on the south side of Golden Gate avenue, below Polk street. This is in the heart of the automobile district, where everybody goes for supplies and repairs.

* * *

MR. J. H. KELLY, of the Republic Rubber Co., is again in San Francisco, after having been away for a few weeks visiting outside agencies. He will remain for a few weeks longer visiting the firm's agencies on the coast.

* * *

MR. VAL. BERRY, who formerly sold druggists' sundries for the Gorham Rubber Co., and who has been on a visit to the East, has returned with the account of the Faultless Rubber Co. (Ashland, Ohio), which he will take care of on the Pacific coast in future.

* * *

THE Woven Steel Hose and Rubber Co., who are now introducing their line on the coast, report excellent progress in this—for them—new and rapidly growing territory. Stott, Plover & Co. are their present Pacific coast sales agents, having succeeded Frederick V. Stott & Co., and they occupy elegant and centrally located offices in the Balboa building, on Market street.

* * *

MR. H. C. NORTON, manager of the American Rubber Manufacturing Co., states that at their factory, in Emeryville, they have as many orders as could be expected at this time of the year, and they are satisfied that business in the future will be excellent.

* * *

THE Plant Rubber and Supply Co. have bought all of the packing and belting of the Barton Packing and Rubber Co., which firm is now confining itself to the manufacturing end of the business. Mr. S. L. Plant reports that business this year has shown up better than did that of last.

* * *

THE Bowers Rubber Works report that they have sold more garden hose during the year just past than any other year. They now have enough work for this department to carry the factory for five months, and so they are taking no more orders for early delivery.

* * *

W. J. CRANDLEY, of the Crandley Rubber and Supply Co., of

No. 41 California street, states that business has been pretty good with him, considering his is a new firm in the business, and he expects to see continued growth and development.

* * *

THE Pacific Mill Mine and Supply Co., on Mission street, near First, have issued their first catalogue. This firm has given a great deal of attention to the setting out of every article connected in any way with belting, whether generally carried as a part of the belting line or not. Their catalogue has been made valuable on account of the many reference tables for practical mechanical use where belting and its installation is necessary.

* * *

W. A. DAGGETT coast representative for the Eureka Fire Hose Manufacturing Co., was lately visiting the factory in the East, returning just before the first of the year.

NEW TRADE PUBLICATIONS.

THE catalogues of the various footwear companies embraced in the UNITED STATES RUBBER CO., for the season of 1911, reached the trade earlier than usual this year, having been sent out during the past month. This series of illustrated catalogues has appeared annually for so long that the majority of the trade have been familiar with them throughout their business careers. While footwear styles have changed, and there may have been from time to time a difference in the arrangement of the catalogues, and new reading matter was introduced from year to year, there was one feature which seemed destined to be perpetual—a size of page 3¼ x 6 inches, with usually 62 pages.

There was an occasional departure from this, however, in the case of some of the companies, and this year a larger size has been adopted for the catalogues of all companies to which this notice relates. The new catalogues are 4¼ x 8½ inches, while the number of pages has been decreased, though without eliminating any of the usual contents of these publications. The changed size of page permits of the use of larger illustrations than formerly and this fact in turn gives an opportunity for depicting better than in the past the appearance of the goods described. The boots and shoes which are shown in these half tones look more "lifelike" than anything seen in the pictures of rubber shoe catalogues in the past, particularly in the case of goods having soles or heels of special designs or rubbers having cloth tops. For this reason alone the change in style of these catalogues cannot fail to meet with favor.

Without going into detail, the number of styles of toes illustrated appears larger than in previous years. Rubber footwear made in this country long has had the distinction of being "close fitting," and it is evident that this quality is being emphasized even more in the attempts of the rubber factories to turn out goods that will fit every possible shape in leather footwear. As has been the case with these catalogues recently, prices are omitted, as the frequent changes in the crude rubber market have made less practicable than formerly the guaranteeing of footwear prices for a year at a time.

The 1911 catalogues sent out from the general offices of the United States Rubber Co. are those of the following companies:

American Rubber Co.
The Joseph Banigan Rubber Co.
Boston Rubber Shoe Co.
L. Candee & Co.
Goodyear's India Rubber Glove Manufacturing Co.
The Lycoming Rubber Co.
Malden Rubber Shoe Co.
Meyer Rubber Co. (including "Meyer" brand and "Jersey" brands.)
Wales-Goodyear Shoe Co. (Made by the Goodyear's Metallic Rubber Shoe Co.)
Woonsocket Rubber Co.

The whole series is exceedingly creditable to the advertising department which Mr. John P. Lyons has managed for so many years for the United States company.

AMERICAN STEEL AND WIRE CO. issue a "Catalogue and Handbook of Electrical Wires and Cables" which is unique in the matter of trade publications. It differs about as far as possible from the ordinary form of catalogue of manufacturing products. As a handbook, it is a very complete account of the construction of electrical conductors and their properties, with the dimensions requisite for any required results. The installation of electrical wires and cables is also dealt with fully. Much of the information may be found in books of reference, but some of it is published here for the first time. The data have been carefully compiled and arranged, with a view of rendering the customer all possible assistance in selecting and specifying the material best suited to his requirements. The illustrations in this volume form a notable feature, most of them being of a nature not contained usually in electrical works. Beginning with illustrations of specimens of crude rubber, for instance, all the processes of insulating are shown very clearly, together with specimens of the products and the means employed for transporting and installing the latter. The illustrations relate to other means of insulation than with rubber, and there are views of braiding and wire covering machines, and the like. The details of dimensions are very complete. Nearly 50 pages are devoted to a glossary of electrical words, terms, and phrases, the same being offered as an abridgement of Houston's "Dictionary." The only features in this handsome volume of 234 octavo pages suggestive of the ordinary manufacturers' catalogue are (1) a page list of the products of the American Steel and Wire Co., and (2) a list of their sales offices. The New York address given is No. 30 Church street.

THE MAUMEE RUBBER CO. (Toledo, Ohio), issue Catalogue A of Mechanical Rubber Goods, calling attention to the products of several leading manufacturers whose agencies they hold. [4½" x 6¾". 100 pages.]

THE WILLIAMS FOUNDRY AND MACHINE CO., (Akron, Ohio) issue a catalogue of Automobile Tire Repair Equipment for 1911. They are producers of a number of devices in this line, for which a large demand has grown up. [6" x 9". 16 pages.]

W. D. ALLEN MANUFACTURING CO. (Chicago) devote their Circular No. 168 to Lawn Sprinklers for the season of 1911, which shows that they are beginning in good time for next year's trade. It is interesting to notice that they list a number of novelties. [3½" x 6". 32 pages.]

THE SPRINGFIELD RUBBER CO. (Springfield, Massachusetts) issue a catalogue of Latest Styles in Waterproof Clothing, in which a number of attractive models for men and women are illustrated. [5½" x 9¼". 32 pages.] *Also:* A descriptive catalogue of Garden Hose and Sundries. [3½" x 6". 8 pages.]

MME. J. LEFRANT & CO. (Ham [Somme], France) issue a booklet on French India-Rubber Substitutes, giving details of interest to the trade in relation to the various substitutes for hot and cold cure, which they manufacture. The trade generally will do well to look it over. [6" x 9". 8 pages.]

ALSO RECEIVED.

THE Republic Rubber Co., Youngstown, Ohio=The Tire Perfect. A short talk on Tires. [Relates to the Republic Staggard Tread Tire.] 22 pages.

Viking Rem=& Pakning=Fabrik, Christiania, Norway.=Special List of Balata and Leather Belting. 4 pages.

Knox Manufacturing Co., No. 704 Arch street, Philadelphia.=Knox Specialties. Couplings, Clamps, etc. 16 pages.

Parker Manufacturing Co., Boston.=The Standard Recording Thermometer. 12 pages.

J. W. Paxson Co., Philadelphia.=Patent Magnetic Metal Separator. 6 pages.

The Peerless Rubber Manufacturing Co., New York.=Belts that Move the Mechanical World. 16 pages.

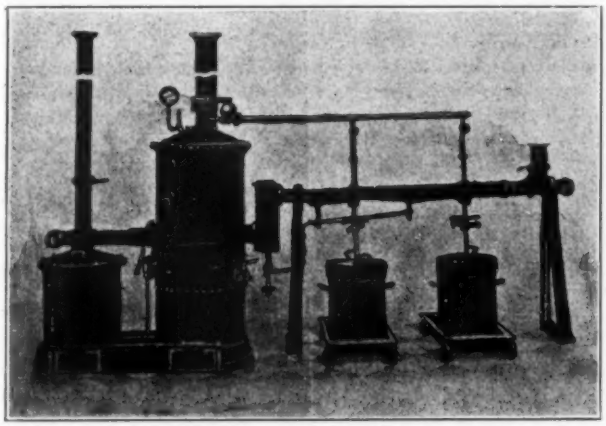
The Firestone Tire and Rubber Co., Akron, Ohio.=Instructions for Operating "Firestone" Quick Detachable Rims and Quick Detachable Demountable Rims. 12 pages.

AT the fifteenth annual meeting of the Self Sealing Rubber Co., Limited (Birmingham: October 21), the continued prosperity of the company was referred to, and the usual dividend of 10 per cent., free of income tax, was declared.

THE DA COSTA COAGULATING SYSTEM.

A MACHINE which is attracting widespread interest among rubber planters in the Far East is that invented for the coagulation of rubber latex by Mr. José Sinão Da Costa, of Pará. Its design is to make practicable by simple mechanical means the native process of smoking the latex of *Hevea Brasiliensis* practised by the natives in the Amazon region. It is well known that the latex from the Pará trees will coagulate by the action of heat. It is known that fairly large samples of rubber were produced in Brazil coagulated by other means than smoking long before the Eastern rubber industry was founded. Nevertheless it is still regarded in Brazil that by smoking alone can be obtained those lasting properties of resiliency and tensile strength, which are the denominating characteristics that have gained for the product of *Hevea Brasiliensis* its supremacy among rubbers.

Mr. Da Costa, who has spent practically a life time in the Amazonian rubber interest is among those who believe in the virtues of smoking rubber, and he has patented this process with a view to making it more economical than the native smoking method, and particularly for the plantations of Ceylon and Malaya. As is well known, the best prices for plantation products are now obtained for "smoked sheet."



DA COSTA'S PATENT LATEX COAGULATOR.

The operation of this process is simple. The latex, when brought from the trees, is first strained, if it contains mechanical impurities, and is then poured into the coagulating tank on the top, steam having in the meantime been raised in the boiler below from a fire of forest woods alone. On this wood fire are then thrown green palm leaves, nuts, or any green twigs, the distillation of which produces acetic acid, whilst the fumes of the green foliage contain creosote to some extent. The fumes are collected in a special chamber, and, after being cleared of dust, etc., are forced into the coagulating tank by a steam injector. During the agitation thus caused the smoke thoroughly permeates the latex, and in about ten minutes, or rather more, according to the quantities to be dealt with—the caoutchouc globules coagulate and separate, and at the same time rise to the surface. After being allowed to cool off in the tank, the coagulated rubber is taken to a small press and turned out in the shape of flat block rubber, which is afterwards reblocked into cube form, and, after being dried, is ready for shipment.

The Da Costa system is manufactured by David Bridge & Co., engineers, of Castleton, Manchester, England. It was exhibited by them at the late Exposition Universelle at Brussels, where a practical illustration of it was given. Latex was coagulated there by the Da Costa system and then put through the other various machines manufactured by the Messrs. Bridge, with the result of obtaining rubber in crepe, sheet, and block forms. It may be mentioned, by the way, that Messrs. Bridge were awarded the *Diplome de Grand Prix* at the Brussels Exposition, for rubber preparation machinery. They have prepared a handsome souvenir book illustrating and describing the various forms of apparatus which were embraced in their Brussels exhibit.

BRITISH GOLF BALL PRICES.

IN answer to a complaint on the part of many golfers in England at the price of golf balls—stated generally at 2*s.* 6*d.* [= about 60 cents]—a writer in London *Field* says that the advance in prices some time ago was not made until fine Pará rubber had reached 11*s.* [= $2.67½], although the makers had been working at a loss for some time. The writer continues:

"In common with others, we expected the price to fall before it did, and so the old state of things might have been maintained. We cannot buy our rubber thread in the market one day and make it into cores the next. We have to provide for the future and safeguard ourselves against contingencies, and therefore, like others, we have to make long contracts ahead. The contracts which we made with rubber fairly high are still running, and will do so for a few more months, and until they expire the cost of manufacture is as great as ever. In the existing circumstances it is impossible for us to reduce the price and make a fair profit for ourselves; in fact, a reduction to the 2*s.* level at this moment would mean loss to us.

"Unthinking people say that rubber is 6*s.* [= $1.46] a pound, and then they weigh a golf ball and calculate accordingly how many may be made from a pound of rubber. But the cores of these balls are made from fine rubber thread, and the price of this at present is not 6*s.*, but 10*s.* 9*d.* [= $2.61½] a pound, and one pound will only make thirteen balls. [This figures at a little over 20 cents per ball for rubber alone.—I R W] It must be remembered also that, owing to the severe competition and the greater care that is now exercised in the process of manufacture, the cost of making is more than it was. There are innumerable small expenses, which together are considerable, of which the public knows nothing, or, knowing, takes no account."

"The manufactory expenses," continues *The Field's* correspondent, "should surely be taken into the reckoning, but the thoughtless public that talks about the possibility of making first-class balls for a shilling or 18 pence considers only the cost of raw material, and not all of that. The effort among leading manufacturers to produce better and better balls is such that experimentation has to go on constantly, and sometimes it is expensive. Then as a specimen of working expenses that are never considered outside, there is the fact that a mold, that will only contain one ball at a time, and which does not last for more than a year, costs us 50 shillings. A very serious item also is that, owing no doubt to the difficult situation in which the smaller professionals find themselves, the proportion of bad debts we make, and cannot help making, is very high—generally, as we reckon, about 20 per cent.

"The result of it all is that we cannot afford to make the balls as we make them in these days, putting new and full-sized cores into them and new material in every other respect, and sell them wholesale, so as to give a small profit to ourselves, for less than 24*s.* a dozen, leaving 6*d.* per ball profit for the professional who sells them. In existing circumstances it is utterly impossible to do better than this, and we should have to stop the manufacture rather than sell at a loss."

It is interesting to note that in the report of the principal chemist of the British government laboratory for the past year that office was called upon to test 28 specimens of waterproofs for the postoffice, in connection with the postal and telegraph messengers, and materials for their manufacture, of which 23 were oilskins and 5 rubber-proofed goods.

Jelutong Works at Goebilt.

By Philip Schidrowitz, Ph.D., F.C.S.

THE operations of the United Malaysian Rubber Co., as readers of THE INDIA RUBBER WORLD are aware, center about the new town of Goebilt, in Sarawak (Borneo). Having recently made a visit of inspection of the works of the company, remaining close on a month in Borneo, it occurs to me that some brief notes regarding what I saw and the impressions obtained may not be without interest for the readers of this journal—especially as the material which the Malaysian company was formed to deal with is in such large demand in America.

Sarawak, covering roughly 50,000 square miles, lies between South (Dutch) Borneo and British North Borneo, and is chiefly known in Europe from the fact that it is an entirely independent state governed by an Englishman with full sovereign rights, under the title of Rajah. There is, however, a good deal more to be said about Sarawak. Much of it has been well said in an excellent work entitled "Sarawak Under Two White Rajahs," and published not very long ago. Those who wish to acquire information regarding the political, social and commercial progress made under the model government this state possesses will do well to consult the pages of this work.

Though the greater portion of Sarawak is within 1 to 2 degs. of the equator, its climate is remarkably temperate and healthy. In many respects the climate is similar to that of Malaya. In the daytime the temperature in the coast districts seldom rises above 85 to 86 degs.; at night 77 to 78 degs. appears to be the average. The rainfall in the neighborhood of Kuching (the capital) and surrounding districts is about 160 inches, and there are the usual heavy night dews. In view of the climatic conditions and the fact that so much of Sarawak is covered with swampy jungle, it is remarkable that malaria is practically unknown. The reason appears to be that the *anopheles* mosquito is non-existent, although other varieties of this unpleasant insect abound.

The growth of vegetation in Sarawak exceeds anything that I saw in any of the eastern districts, even in the most favored parts of Malaya. The exports are already considerable, consisting mainly of pepper, vine rubber, rattan, pines, and last, but not least, jelutong. In view of the new industry which is rising in connection with the production of jelutong a few figures and facts bearing on jelutong production may not be out of place. In 1909 a little under 10,000 tons of jelutong were exported from Sarawak, but the figures since have risen very rapidly, the quantity exported from November, 1909, to March, 1910, being roughly at the rate of 12,000 tons a year.

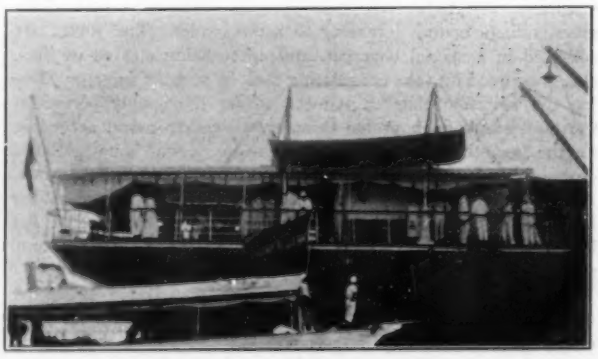
Gutta-jelutong is derived from a number of species of *Dyera*, the most common being *Dyera costulata*. This grows to a very large size, the diameter of a mature tree often reaching 4 to 6 feet. Jelutong varieties are among the commonest forest trees of Sarawak, South Borneo, Central Borneo, the Malay peninsula, and Sumatra. The quantity of jelutong in these vast forest regions is very great. During the past few years I estimate that the total production per annum has been 25,000 to 30,000 tons of jelutong. During the past year the output must have been not far short of 40,000 tons. Large areas, however—for instance, the Federated Malay States, and parts of Borneo and Sumatra—have not yet been worked, and I have little doubt that the trees readily accessible in the jelutong regions would easily yield double the quantity referred to.

Different qualities of jelutong are known in the trade, according to the districts from which they are derived, as Palembang (Sumatra), Pontianak (South Borneo), Sarawak, and so on. Commercial jelutong is obtained by coagulating the latex derived from the jetulong tree. The latter is generally tapped by the natives in one of two ways which greatly resemble respectively the full spiral and V systems employed on plantations of *Hevea* rubber. Occasionally the native methods result in the destruction of trees, but on the whole I am inclined to think that no wholesale destruction has taken place; both the Dyak and the Malay gatherers have sufficient intelligence to understand that destruction of trees entails their going further afield to earn their livelihood. However, measures for the protection of trees and with a view to introducing a more scientific system of tapping are being adopted. In Sarawak the government have appointed special inspectors, and none but licensed tappers are permitted to work the trees. In the Federated Malay States, South Borneo, and the Sumatra concessions owned by the United Malaysian Rubber Co. similar steps are being taken.

The system of tapping now being introduced consists of a long V with a channel running from the point of the V to the collecting cup. The V cuts may be from 6 to 8 feet long and are made by means of a special knife attached to a rod. This system works very satisfactorily, and the Malay and Dyak collectors require little training.

The yield from a mature jelutong tree is very large. According to figures obtained by the department of forests of the Federated Malay States a number of trees were tapped in December, 1910. In the first tapping 48 trees yielded 56 catties [=74 pounds] of latex. In the second tapping 32 trees

GENERAL VIEW OF THE GOEBILT WORKS.
[Seen from the Bay.]



STEAMER LANDING AT GOEBILT.
[Arrival of weekly steamer from Singapore.]

THE MAIN STREET OF GOEBILT.
[The town built by the United Malaysian Rubber Co., Limited, in Sarawak, Borneo—An American enterprise.]

yielded 66 catties [=88 pounds]. The reason for the increased yield at the second tapping is that the flow is somewhat sluggish at first, but subsequent tappings give an increased and ready yield. The Malay States trees yield less latex than the Borneo trees, although the latex is richer in rubber. I think the Borneo trees might with safety be tapped once a week, but if only 40 tappings annually are made this means a yield of about 80 catties [=108 pounds] of latex per tree per annum. The latex should yield on an average about 60 to 70 per cent. of solid (wet) jelutong, containing about 10 per cent. of rubber. This corresponds to a yield of 6 to 7 pounds of pure rubber per tree.

For the coagulation of the latex of jelutong the natives employ a number of weird mixtures, generally including kerosene oil on the one hand, and a variety of "powders" on the other. The latter are sold to them by Chinese dealers, and some of the ingredients I have come across are of little value for the purpose intended. Among the constituents of these "powders" are copper sulphate, alum, gypsum, and the like. The native method consists in adding some of the kerosene and a little of the "powder" and stirring the whole, and then alternately a little more kerosene and powder are added until the whole of the latex sets to a more or less firm block.

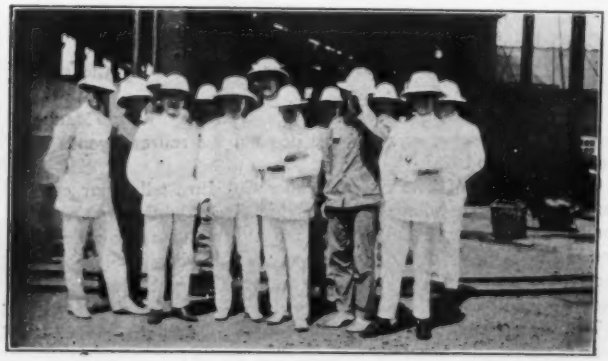
It is surprising that this crude method produces material from which very fair rubber can be extracted. It is, however, equally certain that by improved methods of coagulation much better rubber can be obtained. Mr. Morton, the company's chemist, has recently made a thorough study of methods of coagulating jelutong latex, and has succeeded in devising a method which produces rubber which in appearance and general quality appears to be indistinguishable from the very highest class of plantation *Hevea*, to wit, a light amber, strong, clean sheet. The organization of introducing rational methods of coagulation is being rapidly perfected, and it is likely that within a short period the methods of jelutong production and handling will be completely revolutionized.

Commercial jelutong contains roughly 70 per cent. of water and 30 per cent. of solids, the latter consisting, broadly, of one-third rubber and two-thirds resin. A number of processes have been devised for extracting water and resin from commercial jelutong and deresinated rubbers of this type are now being produced on a considerable scale. The Goebilt works of the United Malaysian Rubber Co. were established with a view to working a novel process of this kind in connection with large concessions over jelutong bearing areas.

Goebilt lies close to the month of the Kuching river, which is navigable for a considerable distance. There is a weekly steamship service between Goebilt and Singapore. The Goebilt works are on a scale of unprecedented magnitude and have been planned with a view to the production of 10,000 pounds of finished rubber per day. Equally remarkable is the extraordinarily rapid development of the factory. Clearing of the site commenced in April, 1909, and in October of the same year trial runs of the plant had commenced. During the same period there had been erected in addition to the factory buildings proper, coolie lines, bungalows for Europeans, storehouses and so on. A bare year after clearing of the jungle had commenced there was a population of probably 500 to 600 souls; practically every necessity of life could be obtained, and there was, in short, an organization such as one expects to find in a well ordered civilized community.

Although for obvious reasons I cannot give a description of the general methods and processes employed at the works, a few details which will give some idea of the magnitude of the enterprise may be of interest. The landing arrangements consist of a large stone pier or seawall and of a wooden pier. The main works consist of a steel building 200 x 75 feet, equipped with electric and steam power. This building contains the rolls, extractors, pumps, stills, and other parts essential to the process. The boiler house, which is separate, contains three Heine boilers capable of developing 750 H. P. In addition there is an engine

NEW CONSTRUCTION AT GOEBILT.
[Plant of the United Malaysian Rubber Co.]



GROUP OF OFFICERS.
[Plant of the United Malaysian Rubber Co.]

house containing the necessary steam engines, pumps and dynamo, a machine shop and foundry, a carpenter shop, a splendid modern laboratory, an ice plant, offices, storehouses, and drying and packing sheds. Water is supplied by a pipe line some three miles in length. The European staff includes a civil engineer, mechanical engineers, a master fitter and a master plumber, two chemists, harbor master, office chief and others. Labor is readily obtainable, partly Malay, partly Chinese.

The company are erecting a second works on Karimon Island, some thirty miles from Singapore, at which it is proposed to produce 30,000 pounds of rubber per day, making with Goebilt a total of 40,000 pounds daily. The conditions of organization and work there will be similar to what exists in Sarawak.

SOME GOEBILT STATISTICS.

THE preceding paper by Dr. Schidrowitz may be supplemented by some details supplied by this gentleman to the United Malaysian Rubber Co., Limited, for the information of their shareholders. As for cost of the crude jelutong, he seems to regard say 5 Straits dollars per pikul as the probable average, and this works out at slightly more than 2⅛ cents, gold, per pound. But even if the cost should reach 6 Straits dollars, and allowing 10 pounds of jelutong for the production of one pound of finished rubber, the cost of the latter would be slightly more than a shilling per pound. The factory product includes two pounds of resin for each pound of finished rubber, and in the opinion of Dr. Schidrowitz the resin should sell ultimately at about 2 pence per pound, or enough to pay for the cost of factory operation. These figures are given as to the shipments of rubber from the Goebilt works:

Previous to July, 1910	*pounds*	258,435
July		115,000
August		142,650
September		155,383

THE RUBBER TRADE AT TRENTON.

BY A RESIDENT CORRESPONDENT.

THE leading rubber factories of Trenton have enjoyed of late a period of marked activity, many of the mills being run overtime. The impression seems general that the outlook for the industry in the coming year is good.

J. Russell Kelso, of the Woven Steel Hose and Rubber Co., says that their business for 1910 exceeded that of the preceding year, and he feels encouraged over the prospect for 1911. The company report the opening of two additional branches—in San Francisco and at Phoenix, Arizona.

A. Boyd Cornell, of the Empire Rubber Manufacturing Co. and the Empire Tire Co., reports an increased business for the year just ended in both mechanical goods and tires. The two three-story additions to their buildings recently completed and equipped have largely increased the manufacturing capacity of Empire companies.

C. E. Lambert, of the Acme Rubber Manufacturing Co., reports working 24 hours daily in their mill room for the past month.

John S. Broughton, of the United and Globe Rubber Manufacturing Companies, says that the demand for railroad goods is exceedingly good.

C. H. Oakley, of The Essex Rubber Co., Inc., tells your correspondent that they have been working three nights a week for some time. Their "Essex" rug is meeting with an encouraging demand in various parts of the country, good orders having been received from Washington for use in the United States capitol and in several of the departments.

The Ajax-Grieb Rubber Co. have been obliged to run continuously day and night, notwithstanding the important additions made recently to their plant. These include two three-story buildings, 200 x 60 feet, and 100 x 6 feet, and a one-story building 200 x 60 feet. There are also additional carpenter and blacksmith shops, and they are now putting in a laboratory. The druggists' sundries line taken on recently has exceeded their expectations in volume of business.

Seymour Obermer, British representative of the Thermoid Rubber Co., is over from London and will not return until after the automobile shows in New York, at which the Thermoid people are exhibiting a full line of their automobile rubber goods.

George R. Cook, who is at the head of the Acme and Hamilton rubber manufacturing companies, of this city, is largely interested likewise in other important Trenton industries, notably the potteries and linoleum. He is president of the Trenton Oil Cloth and Linoleum Co. and the Standard Inlaid Manufacturing Company. On December 21 Cook's Linoleum Co. was incorporated under the laws of New Jersey, with $2,000,000 capital. While Mr. Cook's name does not appear officially in connection with the new company, it is assumed that it will control the business of the two companies named, and also that of the new linoleum plant in Chicago in which he is interested.

Fred R. Sayen, secretary of the Mercer Rubber Co., returned lately from a vacation, part of which was spent in Panama along the line of the canal. This company has already a considerable Pacific Coast trade, which doubtless will be extended with the opening of the canal.

A piece of 27-inch suction hose made by The Combination Rubber Manufacturing Co., at Bloomfield, while in use was flattened by the accidental falling of a heavy crane. By the use of a jack the hose, with the heavy spiral band iron lining, was restored to shape and to working efficiency.

Announcement is made of the engagement of Miss Haas, of Philadelphia, to Mr. William Nelson Blodgett, a son of William L. Blodgett, of the Hamilton Rubber Manufacturing Co., of which Mr. Blodgett, junior, is chemist, having been graduated from Princeton University with the degree of B. S.

The engagement is also announced of Miss Hamill, of Trenton, to Mr. Bruce Bedford, of the Luzerne Rubber Co.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of the values of exports of manufactures of india-rubber and gutta-percha for the month of October, 1910, and for the first ten months of five calendar years:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber,	TOTAL.
October, 1910	$166,996	$242,746	$428,431	$838,173
January-September	1,592,594	1,664,215	4,258,968	7,515,777
Total, 1910	$1,759,590	$1,906,961	$4,687,399	$8,353,950
Total, 1909	1,269,272	1,288,705	3,478,438	6,236,415
Total, 1908	1,049,641	1,157,136	2,940,309	5,147,086
Total, 1907	1,168,648	1,401,890	3,345,209	5,915,747
Total, 1906	994,883	1,077,009	2,702,861	4,774,753

The above heading, "All Other Rubber," for the last four months includes the following details relating to Tires:

MONTHS.		For Automobiles.	All Other.	TOTAL.
July	*values*	$146,080	$56,096	$202,176
August		151,468	71,486	222,954
September		133,735	39,457	173,192
October		103,788	33,469	137,257

AT the recent International Shoe and Leather Fair in London important exhibits were made of the products of the United States Rubber Co. and the Hood Rubber Co., by the foreign branches maintained by these corporations. Another interesting exhibit was that of the United States Shoe and Leather Co., of London, dealers in products of the United States Rubber Co. Other American products were the shoe heels marketed by Howison & Co., Limited, of London.

BALATA BELTINGS IN AMERICA.

AT the annual meeting of R. & J. Dick, Limited, [Glasgow, November 9], the chairman stated that the main feaure of the year's report related to the construction of a balata belting factory in America, at Passaic, New Jersey, at a cost of about £30,000. In the meantime they had been at work in opening a market for their belts in America. They had involved much preliminary expense in the establishment of a selling organization, the whole of which had gone against the profit of last year. A large amount of belting manufactured at home had been sold in the United States. That had not been lucrative business, because of the heavy tariff of 35 per cent. which was borne on the finished articles. They had had to sell at a bare profit, when the strong demand from all parts of the world would have enabled them to sell at a more satisfactory rate. That, however, was a temporary matter, and they believed the exertions of the past year had laid a safe foundation for prosperous business in the future.

Discussing the accounts, the chairman said that the gross profits stood £11,000 lower than last year, chiefly for reasons connected with America which he had explained. The result was that they had this year £41,000 to distribute as against £53,000 last year. The dividends for the year aggregated 5½ per cent. on the preference and 3 per cent. on the ordinary shares, after transferring £10,000 to a special reserve fund, to be invested in outside securities to secure the payment of preference dividends. The gross profit on the year's trading was £47,226; deducting income tax and depreciation, the net profit was £39,751.

THE DICK FACTORY IN AMERICA.

THE American management of R. & J. Dick, Limited, advised THE INDIA RUBBER WORLD during the month of the completion of their factory at Passaic, New Jersey, adding that they were then busy with the erection of their special machinery, imported from Great Britain. They expected within a very few weeks to be manufacturing their well known "Dickbelt." The company further advise: "Our factory is capable of turning out as much stuff as our main works in Glasgow, Scotland, which supply the whole of the world except the United States of America. Our Passaic factory has been specially built for the requirements of the users of belting in the United States, and we are pleased to let you know that we have already established a large business, and as soon as we start manufacturing we shall have in hand sufficient orders to keep us going for some considerable time." The company maintain a New York office at No. 50 Church street.

* * *

THE United States consul at Manchester, England, reports shipments of balata and other belting from that port to the United States during October last to the value of £3,208, as compared with £2,281 in October, 1909.

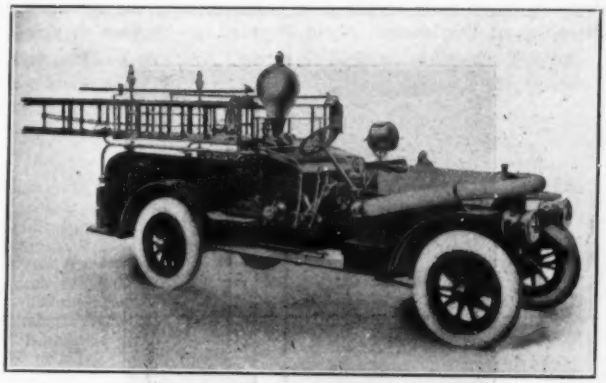
The India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited, have become extensive manufacturers of balata belting.

THE Société Française pour l' Achat et la Vente des Produits de la Russian-American India Rubber Co.—a branch of the St. Petersburg establishment, has been established in Paris, with a capital stock of 500,000 francs, in shares of 500 francs. Offices: Rue St. Ferdinand, 47.

AUTOMOBILE FIRE ENGINES.

SELF propelled fire fighting apparatus is coming so extensively into use, not only in large cities, but in smaller places, for which it furnishes ideal fire protection, that the item of rubber tires, with which these vehicles must be equipped, will entail a very material addition to the large amount of india-rubber fire departments already require in the shape of hose.

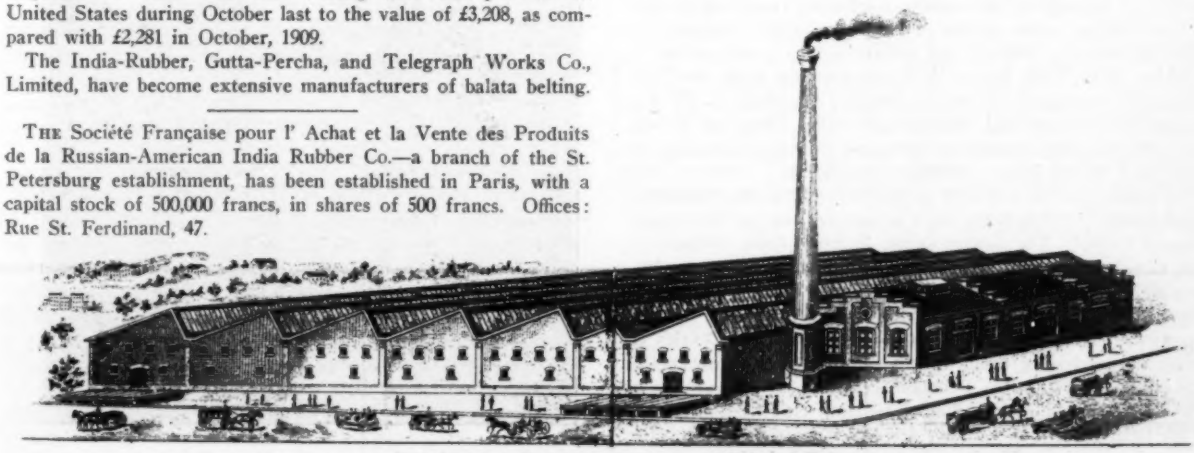
The motor fire engine here illustrated, which has a guaranteed speed of 60 miles an hour, with a carrying capacity of 3,600 pounds, is propelled and operated by a 90 H. P. gasoline motor, and is only one of a number of similar machines built by the Webb Motor Fire Apparatus Co. (St. Louis), including fire engines, chemical engines, hose wagons, and trucks for fire department use, for which rubber tires are indispensable. The high rate of speed at which these ponderous vehicles are required to travel over all kinds of roads makes the pneumatic tire absolutely essential for the protection of the motor and pumping mechanism from the destructive shocks to which it would otherwise be exposed.



WEBB NO. 1 MOTOR FIRE ENGINE.

New York City has some of this self propelled fire apparatus in use; other cities in which it is employed, with satisfactory results, are St. Louis, Charleston South Carolina; New Haven, Connecticut; Augusta, Georgia; Birmingham, Alabama; Winnipeg, Manitoba; Springfield, Ohio; Detroit, Michigan; Dallas, Texas; Trenton, New Jersey; Manila, Philippines; London, Dublin, Berlin, and so on.

The apparatus in New York has given entirely satisfactory results to date.



THE DICK BELT WORKS AT PASSAIC, NEW JERSEY.

THE OBITUARY RECORD.

WILLIAM DE FOREST BROWN.

A LAMENTABLE piece of news this month is the report of the death by drowning of William De Forest Brown, secretary and treasurer of the National India Rubber Co., near Bristol, Rhode Island, on December 9. Mr. Brown had gone out duck shooting, in a canoe, which encountered some mishap. He gave calls for help, but when several persons responded it was too late, and the last details can only be conjectured, since Mr. Brown was alone.

Mr. Brown was a native of Rehoboth, Massachusetts, where his mother, Mrs. Amanda M. Brown, now lives, together with several other relatives. His father, who was a manufacturer of cottons, died several years ago. William De Forest Brown became employed early in life as a bookkeeper by the Brownell, Field Co., of Providence. About 18 years ago he went to Bristol as secretary of the National India Rubber Co., which position he held continuously thereafter. About six years ago he was elected also to the office of treasurer of the company, succeeding Colonel Samuel P. Colt. Mr. Brown was at one time private secretary to Colonel Colt—now president of the United States Rubber Co.—and has sustained a close relation to those rubber interests with which Colonel Colt has been identified. He was, for instance, auditor of the branch stores of the United States Rubber Co. throughout the country, conducting this work in connection with his duties at the office of the rubber company.

THE LATE W. DE F. BROWN.

Mr. Brown was married and is survived by a widow and a daughter, Miss Viola Brown, a recent graduate from the New England Conservatory of Music. He was a member of the Independent Order of Odd Fellows and of the Order of Woodmen. He was fond of athletics and some time was a director of the Bristol Young Men's Christian Association.

The public funeral was held on December 12 at the Congregational Church in Rehoboth, after private services at the Brown home in Bristol. The factory of the National India Rubber Co. was closed for the day of the funeral, out of respect to Mr. Brown. The pallbearers were Wendell R. Davis, William McCaw, D. A. Pratt, George Schlosser—superintendent of the Woonsocket Rubber Co.—Dr. George Carpenter, and Charles E. Emerson—purchasing agent for the United States Rubber Co. The interment was at the Rehoboth cemetery.

The body was viewed on Sunday by many citizens, and officers of the Bristol Train of Artillery acted as a guard of honor at the house of mourning. The interment was at Rehoboth.

THE GOODRICH ROAD SIGNS.

AN illustration here indicates the general appearance of the sign posts with which the B. F. Goodrich Co. (Akron, Ohio) are marking the main highway from Cleveland to New York city, after which similar posts are to be erected up into New England, and eventually throughout the country. While these signs are primarily for the benefit of automobilists, they cannot fail to be of service to the general public, since they are placed every four miles along the main routes of travel, and contain information of interest to users of these roads generally. The posts are of heavy creosoted timber, 4 x 4 inches, and 12 feet high. The round metal disk which forms the principal part of the sign is 2 feet in diameter, outside of which is a painted border representing a Goodrich tire and labeled suitably. Arrow blades point to the names of three towns—the next town, the next largest, and the ultimate destination, together with distances carefully reckoned. Projecting out from the disk and pointing to the remaining directions are two other blades, with additional details. A tin sign on each post contains explanations of symbols painted on the disk as to danger points and the location of repair shops and gasoline supplies.

THE GOODRICH TIRE SIGN POST.

News of the American Rubber Trade.

C. ROBERTS RUBBER CO. BOUGHT BY FABER.

EBERHARD FABER, long a partner of the late Christopher Roberts in the rubber business at Newark, New Jersey, and more recently an officer of the C. Roberts Rubber Co., has bought the remaining interest in that concern. The other shareholders were Mrs. George S. Coxe, the daughter of the late Mr. Roberts, and her husband, who is connected with the business, and Weldon Roberts, a nephew of Christopher Roberts.

This business was established in 1858 by Mr. Roberts, who shortly afterwards made a contract with what is now the firm of Eberhard Faber, of Brooklyn, to supply erasers for lead pencils—an arrangement which resulted in a large business, Mr. Faber coming in time to take all the production of the factory. Early in 1899 the company was incorporated under the laws of New Jersey as the C. Roberts Rubber Co., with Mr. Roberts, president; Mr. Faber, vice-president; the capital stock was $150,000.

Mr. Roberts died in 1903. As the majority interest in the company became less and less identified with the management, the Faber firm expressed a wish to control completely the rubber manufacturing branch of their business, with the result that the other shareholders retired under a satisfactory agreement.

WESTERN RUBBER CO.—EXTENSION.

THE Western Rubber Co. (Goshen, Indiana), closed their works on December 21 to January 1, for the purpose of installing a new engine and other new machinery; also rearranging much of their prior equipment in their lately completed new building. The company were engaged in this work of renovation practically for the entire year of 1910, and now have a thoroughly equipped and modern rubber manufacturing plant.

NEW CRUDE RUBBER FIRM IN NEW YORK.

WILLEMS & Co. (No. 56 Pine street, New York) are a new firm engaged in the importation of African products, with crude rubber a specialty. They are engaged in the direct importation of African rubbers, Mr. Willems having been in Africa for the last 15 years, where he was manager of a large rubber estate in which he is interested, with headquarters at Leopoldville on the Congo, and he is considered an expert on rubber. Mr. Hugo Kastor, who has taken an interest in the business of Willems & Co., has been, for a number of years, and still is engaged successfully in other lines.

RUBBER GOODS DIVIDEND.

THE directors of the Rubber Goods Manufacturing Co. on December 7 declared from net earnings the forty-seventh regular quarterly dividend of 1¾ per cent. on the preferred shares, payable December 15, 1910, to holders of record at 3. P. M. on December 9.

INTERCONTINENTAL RUBBER CO.—DIVIDENDS.

AT a meeting of the directors of the Intercontinental Rubber Co. [New York: December 5] it was voted to retire on January 1 25 per cent. of the outstanding preferred stock, reducing the total from $2,000,000 to $1,500,000. The preferred stock dividend requirements—at 7 per cent. per year—thus are reduced to $105,000 annually. The directors declared the regular quarterly dividend of 1¾ per cent. on the preferred stock, payable January 1, 1911, to holders of record on December 20. The second dividend of 1 per cent. on the common stock was also declared, payable February 1, 1911, to holders of record on January 20. The first common stock dividend was payable November 1 last. The statement is authorized that for the quarter ended October 31 the net earnings amounted to more than $1,100,000. It was also stated that notwithstanding a shrinkage in the prices of rubber generally the contracts which the company have entered into already insure a profitable year. Giles W. Mead was elected a director to fill a vacancy.

BOSTON BELTING CO.'S ANNUAL.

AT the recent annual meeting of the Boston Belting Co. the directors were reëlected: Thomas A. Forsyth, J. H. D. Smith, Lewis M. Crane, Charles H. Moseley, Francis H. Stevens, William H. Furber, and George A. Miner. Thomas A. Forsyth was reëlected president; J. H. D. Smith, treasurer and clerk; and Thomas Lang, Jr., and Charles J. Upham, auditors. The balance sheet as of September 30, 1910—with comparative figures for the preceding year—is appended:

ASSETS.

	1909.	1910.
Real estate—land and buildings..	$254,281.85	$324,711.85
Machinery	250,702.48	348,088.94
Tools, furniture, and fixtures....	97,661.80	
Cash	40,065.26	79,618.73
Bonds receivable		82,340.00
Notes receivable		841.72
Investment account	798,420.67	613,000.00
Accounts receivable		120,089.44
Merchandise	911,366.04	983,002.08
Trade marks	100.00	7,917.15
Sundries	550.00	
Total	$2,353,148.10	$2,559,609.91

LIABILITIES.

Capital	$1,000,000.00	$1,000,000.00
Reserve fund	800,000.00	800,000.00
Profit and loss	379,148.10	337,609.91
Notes payable	174,000.00	422,000.00
Total	$2,353,148.10	$2,559,609.91

The usual quarterly dividend of 2 per cent.—No. 165—has been declared, payable January 1.

BOSTON WOVEN HOSE AND RUBBER CO.

THE Boston Woven Hose and Rubber Co. have filed with the secretary of state of Massachusetts a statement of their financial condition, as required by the statutes, for their business year ending August 31, 1910, the details of which are reproduced below, in comparison with which are given also the figures for the two preceding years:

ASSETS.

	1908.	1909.	1910.
Patents	$1.00	$1.00	$1.00
Land and buildings	785,799.71	825,435.97	800,000.00
Machinery and tools	508,300.78	562,340.97	450,000.00
Cash	77,984.35	403,168.00	96,428.24
Accounts receivable	467,564.05	468,518.00	553,922.90
Office furniture	1.00	1.00	1.00
Merchandise	674,113.69	665,948.96	756,283.51
Total	$2,513,764.58	$2,925,414.80	$2,656,636.65

LIABILITIES.

	1908.	1909.	1910.
Capital stock, common	450,000.00	750,000.00	$1,515,000.00
Capital stock, preferred	$750,000.00	$750,000.00	
Loans	695,000.00	455,000.00	85,000.00
Accounts payable	43,669.33	47,789.20	57,902.71
Accrued wages	.....	8,456.80	11,463.26
Guarantee account	.....	.....	87,270.68
Surplus	575,095.25	914,168.80	900,000.00
Total	$2,513,764.58	$2,925,414.80	$2,656,636.65

BEAUTIFUL SNOW.

THE current winter season opened favorably for the rubber footwear trade, in respect to the amount of snowfall. The first snow in New York city occurred on December 5-6, amounting to about 6 inches. The first regular "Snow and Ice Bulletin" for the season, of the United States weather bureau, dated December 6, showed that a large part of the country east of the Rocky mountains was snowbound. The most southerly point covered by the snow map was Little Rock, Arkansas. Generally the line of snowfall followed the southern limits of the Ohio and Missouri river valleys. It may be added that at the date referred to the rubber shoe wearing area of the United States was for the most part covered, and that, compared with the same date of the year before, there was a large area in the Ohio valley and the middle Atlantic states covered, which were then bare.

The following details of snowfall in New York are supplied to THE INDIA RUBBER WORLD by the United States weather bureau. The depths are stated in inches and tenths; T signifies "trace":

	1905.	1906.	1907.	1908.	1909.	1910.
January	19.3	3.0	10.9	10.6	9.5	16.6
February	7.2	5.0	21.1	13.7	1.4	5.3
March	3.0	13.4	13.8	3.5	4.1	0.4
April	T	T	6.1	T	T	0.
November	T	T	T	0.6	1.0	T
December	0.7	0.5	4.4	5.1	11.4	*6.5
Total	30.2	21.9	56.3	33.5	27.4	28.8

[*To December 9, 1910.]

Totals by winters have been:

1905-06	22.1 inches	1908-09	20.7 inches
1906-07	52.4 inches	1909-10	34.7 inches
1907-08	32.2 inches	1910-11 (to date)	6.5 inches

GOODYEAR TIRES IN CANADA.

THE Goodyear Tire and Rubber Co. of Canada, Limited, have been mentioned [see THE INDIA RUBBER WORLD, December 1, 1910—page 95] as having acquired the factory of the Durham Rubber Co., Limited, at Bowmanville, Ontario. Mr. F. A. Seiberling, of Akron, is president of the company. The officers in Canada are L. C. Van Bever, vice president, and C. H. Carlyle, secretary, with F. D. Saylor manager of the mechanical goods department. Branches are being established in Montreal, Vancouver, Winnipeg, St. Johns, and Calgary. The Goodyear company have already done a good business in the Canadian tire trade, and they were referred to recently as having in hand already orders for $500,000 worth of tires for their Canadian factory.

ST. MUNGO COMPANY COMES TO AMERICA.

THE St. Mungo Manufacturing Co., an important firm in the British golf ball trade, with a factory at Govan, Scotland, are entering the trade in the United States in a large way. They have formed for this purpose a corporation under the style St. Mungo Manufacturing Co. of America, of which A. C. Wood is president and treasurer and W. W. Mills secretary. Their factory is located at Arlington, New Jersey, being the premises occupied at one time by the Kempshall Manufacturing Co., and later by the succeeding firm, the American Golf Ball Co. The good will and business right of the last named has been acquired by the St. Mungo company, who are placing upon the market the "Colonel" ball, which has become so popular among British golfers.

MR. MATLACK JOINS THE AJAX-GRIEB.

MR. JAMES C. MATLACK has been appointed secretary and general manager of the Ajax-Grieb Rubber Co., with headquarters at the new executive offices of the company, No. 1986 Broadway, New York. Mr. Matlack became prominent in the tire trade as president of the International Rubber Co., at Milltown, New Jersey. When the Michelin Tire Co., of France, decided to become established in America, they took over the Milltown plant and made Mr. Matlack first vice president and general manager, which further extended his acquaintance with the trade. Under Mr. Matlack's direction the Ajax-Grieb company are inaugurating a most active selling campaign for 1911. The company's new quarters in New York are in larger and better equipped premises than in the past.

FORTY-THREE YEARS WITH THE WOONSOCKET COMPANY.

MICHAEL WALSH on November 19 completed his forty-third year as a watchman in the employ of the Woonsocket Rubber Co. He was the first watchman ever employed by the company, and when the "Alice" mill was built, in 1889, he was stationed there, where he has since remained on duty. Mr. Walsh enjoyed the friendship of the late Mr. Banigan, founder of the company. He is nearly 80, but expects to enjoy a good many years to come, particularly since his name will remain on the company's payroll during the rest of his life.

B & R RUBBER CO.—INCREASE OF CAPITAL.

At a meeting of shareholders of the B & R Rubber Co. (North Brookfield, Massachusetts: December 16) it was voted to increase the 7 per cent. cumulative preference capital from $120,000 to $160,000, by the issue of 400 shares of $100 each, 200 of these shares to bear date January 1, 1911. The common stock remains at $240,000, so that the total capital now arranged for will be $400,000. There has been a steady growth in the business of the company of late, and the increased capital will be used for the introduction of new machinery and the making of other improvements.

CHANGES IN FOREIGN TARIFFS.

THE initial number of a publication entitled *Foreign Tariff Notes* has been issued by the bureau of manufactures of the Department of Commerce and Labor, at Washington. The scope of the new publication is a broad one, embracing changes in rates of import and export duty in all the important countries of the world; notice of proposed or pending revisions of foreign tariffs is also given, together with amendments of the customs and consular regulations. The first number covers the changes for the last five months, including a special chapter describing the regulations governing the admission of automobiles in several countries.

TIRE TRADE AT HOUSTON, TEXAS.

THE Diamond Rubber Co. (Akron, Ohio) are establishing their southern distributing agency at Houston, Texas, where a building especially adapted to their wants is being erected. It is reported that the company will carry a $300,000 stock in Houston.

The Bering Tire and Rubber Co. has been organized at Houston, being located at No. 511 Travis street, with Mr. A. C. Bering, Jr., as manager. They will act as Texas distributing agents for the Empire Tire Co. (Trenton, New Jersey), and in addition conduct a jobbing trade in rubber goods generally.

The Hartford Rubber Works Co. have opened a branch in Houston, Texas, at No. 1120 Texas avenue, under the management of A. S. Baldwin.

TRADE NEWS NOTES.

THE regular quarterly dividend of 1½ per cent. on the preferred stock of the Manufactured Rubber Co. (Philadelphia) was payable on December 1.

The factory of the Webster Felt and Rubber Co. (Webster, Massachusetts) was started on the last day of November, and has been in operation since.

The Texas Rubber and Supply Co., of Houston, capitalized at $100,000, have filed a voluntary petition in bankruptcy following the filing of civil suits against them. J. N. Taub was named as trustee, under a bond of $50,000.

The plant of the Rickaby Rubber Manufacturing Co. (South Framingham, Massachusetts), which recently went into liquidation, was sold at auction, for $3,100 above an existing mortgage of $8,500 and unpaid taxes.

NEW INCORPORATIONS.

THE Vail Rubber Co., October 26, 1910, under the laws of Illinois; capital, $16,000. Incorporators: William A. Vail, Joseph Wright, and William E. McCoy. Principal office: No. 301 West Indiana street, Chicago. The business referred to has been carried on at the same address hitherto as the Vail Rubber Works, engaged in the manufacture of molded goods.

Hartford Tire and Auto Repair Co., November 15, 1910, under the laws of Connecticut; authorized capital, $5,000. Incorporators: W. E. Johnson, E. A. Cordonnier, and E. S. Fletcher—all of Hartford, Connecticut.

Hood-Savage Rubber Co., November 16, 1910, under the laws of Maine; authorized capital, $1,000,000. Incorporators: Frederic W. Savage, Granville, New York, and No. 36 Lincoln street, Boston; Frank G. Farrington, and Norman L. Bassett—both of Augusta, Maine. Some time ago was reported the incorporation of the F. W. Savage Rubber Co., to exploit some patents granted to Mr. Savage and to contract for the sale of certain products through the Hood Rubber Co., Boston. [See THE INDIA RUBBER WORLD, May 1, 1910—page 293.] The incorporation last formed is to succeed that mentioned formerly.

Frontier Rubber Co., October 28, 1910, under the laws of New York; capital, $10,000. Incorporators: Charles F. Benzing, John G. Stowe, and Charles A. Castor—all of Buffalo, New York.

Ironclad Tire Protector Co., December 2, 1910, under the laws of Illinois; capital, $50,000. Incorporators: George S. Pines, Walter S. Baer, and Edward R. Newmann—all of Chicago. The attorneys of record filing the incorporation papers were Pines & Newman, Monadnock block, Chicago.

Interstate Rubber Co., November 15, 1910, under the laws of New York; capital, $25,000. Incorporators: Charles Josephson, Morris Sieberman, and Charles H. Horowitz—all of No. 42 West Eighteenth street, New York.

London Waterproof Co., November 15, 1910, under the laws of New York; capital $25,000. Incorporators: Julius Roggen, Sol Roggen—both of No. 1350 Madison avenue, and Louis Wener, No. 623 East One Hundred and Seventy-eighth street, New York city. The New York location of this business is No. 55 East Eleventh street; there are establishments abroad in Manchester and Paris.

Fear-Naught Tire and Rubber Co., December 7, 1910, under the laws of New Jersey; authorized capital, $125,000. Incorporators: E. J. Forhan, G. F. Martin, and H. P. Jones—all of No. 154 Nassau street, New York. The office of the company is at No. 144 Water street, Paterson, New Jersey, where Dr. J. T. Cooper is the agent in charge. The purpose of the company is to exploit a tire patented by Dr. Cooper, and which has been described more than once in the pages of THE INDIA RUBBER WORLD.

Detachable Wheel Co. of America, December 10, 1910, under the laws of Delaware; authorized capital, $50,000. Incorporators: Warren N. Akers, Millard C. Taylor, and William J. Maloney—all of Wilmington, Delaware. This incorporation was obtained by F. E. Lomas, Esq., 53 Courtfield garden, S. W., London, England.

The Federal Rubber Co., a corporation of Wisconsin, with a factory at Cudahy in that state, qualified to do business under the corporation laws of Illinois, November 30, 1910. The principal office in the latter state is at No. 1350 Madison avenue, Chicago.

The American Belting and Fabric Co. (Oakland, California), the incorporation of which was reported in THE INDIA RUBBER WORLD, December 1, 1910 (page 100), has been formed to operate a factory for the treatment of fabrics, paper, and leather with a coating proof against water and acids. This treatment is referred to also as rendering such substances proof against oils, which they may come in contact with in protecting working machinery. The same application has been made in cheesecloth, rendering it waterproof. F. L. McGillan is president of the company.

MR. FIELD LEAVES THE HARTFORD.

HARRY E. FIELD has resigned from the positions of vice-president and general manager of the Hartford Rubber Works Co. (Hartford, Connecticut) to become president of the Rambler Automobile Co. of New York, which is the Eastern branch of The Thomas B. Jefferey Co. (Kenosha, Wisconsin). Mr. Field will have the management of the Jefferey interests in all of the territory east of Buffalo and Pittsburgh, including New England and the South Atlantic states. Mr. Field has been connected with the Hartford company for six years. The change dates from January 1.

ELECTRIC HOSE AND RUBBER BRANCHES.

The Electric Hose and Rubber Co. (Wilmington, Delaware), manufacturers of a full line of rubber hose by their special methods, have opened two new branch stores, in order to better serve their trade. One is in New York, at No. 19 Warren street, in charge of Mr. A. W. Archer, Jr., manager; the other is in San Francisco, at No. 562 Howard street, with Mr. F. C. Anderson, manager.

A NEW SCHOOL OF RUBBER CHEMISTRY.

THE Kensington Association Institute, of Philadelphia, have opened a school of industrial chemistry. The lectures and laboratory work are limited to organic chemistry and are carried on under four departments, one of which is Chemistry of Rubber and Forest Products. The work in this department is designed to include a study of the raw materials, processes, and products characteristic of this field. The curing, loading, vulcanizing, and reclaiming of rubber, and the use of the same in the manufacture of decorative and useful articles. It is considered desirable to extend the field so as to cover the related forest products, as some of these are used to a considerable extent in the rubber industry. The director of the school is Dr. Frederic Dannerth, No. 204 Walnut place, Philadelphia.

DIVIDENDS DECLARED.

A QUARTERLY dividend of 1 per cent. on the preferred stock and 1 per cent. on the common stock of the Walpole Rubber Co. (Walpole, Massachusetts) has been declared, payable January 15, to holders of record January 1, 1911.

The semi-annual dividend of 7 per cent. on the preferred stock of the Converse Rubber Co. (Malden, Massachusetts) was payable on December 19.

TRADE NEWS NOTES.

THE distributing agency for Firestone tires and demountable rims for his territory has been secured by Joseph H. Walsh, No. 12 East Adams street, Jacksonville, Florida.

The "Hinge Edge" line of conveyor belts patented and owned by John J. Ridgway, are now made exclusively by the Quaker City Rubber Co. (Philadelphia). These belts are sold to the consumer only.

A recent display of india-rubber in its various stages from the crude product, through the processes of manufacture, to finished goods in great variety, made by The Maumee Rubber Co. (Toledo, Ohio), of which Mr. A. D. Wentz is president and manager, is referred to as having been viewed with interest by many visitors, during two weeks.

The Canadian Rubber Co., of Montreal, Limited, have taken out a building permit for an additional factory near their existing plant in Montreal, the estimated cost of which is $220,000.

The W. D. Allen Manufacturing Co. (No. 151 Lake street, Chicago) advise that they will be issuing shortly a new catalogue of lawn sprinklers and other like goods, to be known as Catalogue No. 29, and which the trade is invited to ask for.

The Goodyear Tire and Rubber Co., of Canada, who, as has been stated in these columns, have acquired a factory at Bowmanville, Ontario, where they are at work already, state that it is their intention to introduce their products—tires and mechanical goods—in British territory all over the world.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending December 17:

COMMON STOCK, $25,000,000.

[The treasury of a subsidiary company holds $1,344,000.]
Last Dividend, April 30, 1900—1%.

Week November 26	Sales	500 shares	High	36⅛	Low	34⅝
Week December 3	Sales	2,800 shares	High	35	Low	32
Week December 10	Sales	2,100 shares	High	33	Low	32
Week December 17	Sales	1,700 shares	High	34½	Low	32½

For the year—High, 52½, Jan. 3; Low, 27, July 26.
Last year—High, 57⅝; Low, 27.

FIRST PREFERRED STOCK, $39,824,400.
Last Dividend, October 31, 1910—2%.

Week November 26	Sales	300 shares	High	111	Low	110
Week December 3	Sales	715 shares	High	110	Low	109
Week December 10	Sales	705 shares	High	110	Low	109
Week December 17	Sales	500 shares	High	110	Low	109¼

For the year—High, 116½, Jan. 10; Low, 99, July 26.
Last year—High, 123½; Low, 98.

SECOND PREFERRED STOCK, $9,965,000.
Last Dividend, October 31, 1910—1½%.

Week November 26	Sales	200 shares	High	72½	Low	72⅜
Week December 3	Sales	300 shares	High	72	Low	71½
Week December 10	Sales	400 shares	High	73⅛	Low	72
Week December 17	Sales	100 shares	High	73	Low	73

For the year—High, 84, Jan. 3; Low, 59½, July 27.
Last year—High, 89⅛; Low. 67½.

SIX PER CENT. TRUST GOLD BONDS, $19,500,000.

Week November 26	Sales	33 bonds	High	102⅞	Low	102⅞
Week December 3	Sales	77 bonds	High	102½	Low	102½
Week December 10	Sales	30 bonds	High	103	Low	102¾
Week December 17	Sales	28 bonds	High	103	Low	102¾

For the year—High, 104½, Jan. 15; Low, 101¼, July 30.
Last year—High, 106; Low, 102¼.

GOODYEAR TIRE AND RUBBER CO. ACCOUNTS.

THE annual balance sheet of the Goodyear Tire and Rubber Co., as of October 31, 1910, is shown herewith, compared with the corresponding figures for the preceding year. The item of "notes receivable" in the assets is referred to as being "for company's capital stock secured."

ASSETS.

	1909.	1910.
Plant and property	$920,355.42	$1,484,036.35
Patents	1.00	1.00
Securities owned	5,001.00	80,519.23
Notes receivable	97,474.42	141,942.55
Inventory		1,212,060.51
Notes and accounts receivable		1,076,864.83
Cash on hand	1,549,348.98	576,359.51
Prepaid rentals, etc	25,808.04	40,220.88
Total	$2,597,988.86	$4,612,004.86

LIABILITIES.

Capital, preferred	$432,100.00	$1,000,000.00
Capital, common	904,700.00	2,286,100.00
Current liabilities	431,379.47	227,085.07
Reserved:		
For fluctuations in crude rubber market	350,000.00	500,000.00
For doubtful accounts	63,889.72	94,464.26
For depreciation	192,664.61	260,713.29
Surplus	223,255.06	243,642.24
Total	$2,597,988.86	$4,612,004.86

S. P. WETHERILL CO.—CHANGE OF STYLE.

THE Philadelphia firm The S. P. Wetherill Co., manufacturers and importers of various rubber manufacturers' supplies, have adopted the name of The Westmoreland Chemical and Color Co., from January 1. This has been due to the desire of Mr. Wetherill to retire from active business, and his resignation as president of the company. The officers are now Henry C. Stewart, president; Milton Birch, vice president; William R. Paul, treasurer; and John C. Nippes, secretary.

THE KNOX HOSE COUPLINGS.

THE line of couplings made by the Knox Manufacturing Co. No. 19 North Seventh street, Philadelphia, for high pressure and drill hose, are offered to the trade on the recommendation that they will not injure the tube of hose. The company will be pleased to send an illustrated list of these goods to all persons in the trade who may be interested.

THE NEWEST CRUDE RUBBER.

THE Durango Commercial Co. has been incorporated in Michigan, with headquarters in Detroit, to exploit rubber from a Mexican tree called "palo calorado," which is reported to be particularly abundant in the state of Durango. This development is due to studies made by Professor John R. Allen, of the University of Michigan, during a visit some months ago to Mexico. The officers of the company are Joseph H. Hunter, president; Henry W. Campbell, vice president; John R. Allen, secretary; Herbert W. Noble, treasurer; J. Wilfred Thompson and Emil E. Keller, directors.

NEW CALENDARS.

THE Oxford Tripoli Co., Limited (No. 11 Broadway, New York) send us a handsome calendar for 1911 with a tear-off leaf for each month embellished with a handsome illustration of a scene in Nova Scotia in the vicinity of their mines of fossil flour.

The New Jersey Rubber Co. (Lambertville, New Jersey), send out again the "Handy Desk Calendar." It embraces a memorandum leaf for each day in 1911, and is a useful desk fixture.

SALE OF THE O'SULLIVAN COMPANY.

THE sale is reported of the business of the O'Sullivan Rubber Co. (Lowell, Massachusetts) to New York capitalists. This company was incorporated in Maine, with $50,000 capital, in 1899, since which time a very large business has been built up in rubber soles and heels. While Lowell has been the home of the company, their goods have been manufactured by The B. F. Goodrich Co., of Akron. It is understood that Humphrey O'Sullivan, who has always been the active head of the business, will continue as treasurer, and J. Munn Andrews as secretary. It is reported that a new corporation will be formed.

PERSONAL MENTION.

AT the recent banquet of the Victorian Club—a Boston social organization composed of Britishers born—at the Hotel Westminster, in Boston, among the speakers was Mr. Elston E. Wadbrook, a former president of the club. Mr. Wadbrook, who is now a resident of New York, where, by the way, he is interested in rubber, talked of "old times," demagogy in the United States and the growth of sanity, and other topics of general application, besides which he brought a message of good will from the British and Universities Club of New York.

At a meeting of a committee of business men of Rhode Island, held in Providence on December 12, a resolution was adopted recommending the support of all Republicans in the state for the candidacy of the Hon. Le Baron B. Colt for United States senator.

Mr. Edgar B. Davis, second vice-president of the General Rubber Co., sailed from New York on December 10, for the Far East. Mr. Davis is concerned in the development in that region of crude rubber properties for the United States Rubber Co., of which the General Rubber Co. is a subsidiary. This is Mr. Davis's fourth visit to the Far East and the third in the interest of the rubber company.

Mr. Lester Leland, second vice-president of the United States Rubber Co., sailed from New York on the last day of November for an extended visit to Europe.

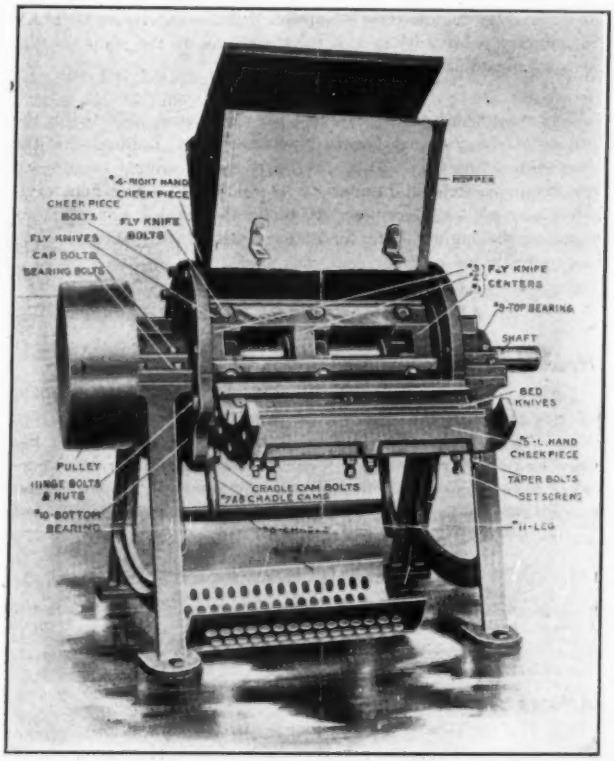
The Foster Rubber Co. (Boston) have removed their office and sales room to No. 105 Federal street. Previously their office and sales room have been in different locations, and their combination, in more commodious quarters, will enable the company to better serve the interests of their customers.

A NEW TIRE FACTORY.

THE Frontier Rubber Co. (Buffalo, New York), the incorporation of which is noted in another column, have begun the manufacture of automobile tires, tire repair stock, and mechanical rubber goods, in addition to maintaining a tire and tube repair department, all under the supervision of C. A. Castor. The sales department is in charge of J. C. Milsom. The officers of the company are C. F. Benzing, president and treasurer; John G. Stowe, M. D., vice president; C. A. Castor, secretary and superintendent.

ROTARY CUTTER FOR RUBBER SCRAP.

THE illustration herewith relates to a patent rotary cutter of a type which is coming into use in dealing with cured or uncured scrap rubber instead of the cracker mills for this purpose in general practice in the past. This is the Ball & Jewell Patent Cutter and is made in various sizes, that shown on this page being designated No. 1, though all the sizes are constructed on the same system. The No. 1 size is used by rubber manufacturers to reduce factory scrap, whether cured or uncured; weight, 1,300 pounds; speed, 900 revolutions; power, 5 to 15 HP.; floor space, 4′ 6″ x 2′ 10″; six-inch double belt.



BALL & JEWELL ROTARY CUTTER.

The size No. 2, for use in reclaiming plants, weighs about 2,300 pounds, is 20 to 40 H.P., and occupies a floor space of 5′ 8″ x 3′ 6″. This machine will cut 100 pounds of shoe scrap per minute, using a 2-inch screen in the cutter. The size of product is determined by the screen used. This machine may be used for any kind of rubber scrap, including hard rubber. Both sizes of this cutter may be used for cutting up guayule shrub in Mexico.

There is a smaller size—No. 0—designed for laboratory work and also in practical application for cutting up hot-water bottles, bulbs, tubing, and the like. [E. P. Mallinson, No. 23 Warren street, New York.]

SOME NOVELTIES IN RUBBER.

AIR-WEIGHT RUBBER ANKEL-ETS.

THIS is really a zephyr-weight "fitted" leggin, running from the ankle half way to the knee, made of "light as air rubber," fastening with handmade catches. They fold into such a small compass that a pair may be carried in a lady's pocketbook. They not only keep the ankle warm, but they prevent the skirt from rubbing the shoes and stockings. They are made in three sizes and are one of the neatest ladies' footwear adjuncts yet produced. [Howe Rubber Co., Newark, New Jersey.]

HOMEIER'S PATENTED COMB.

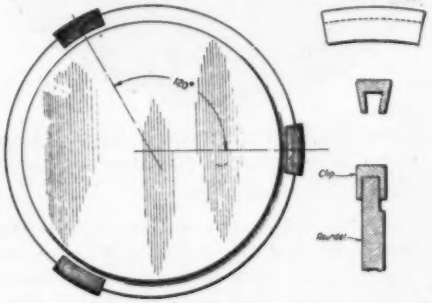
THE cut which accompanies this paragraph tells its story so well as to render an extended description unnecessary. The idea, as will be seen, is to provide a means for replacing any

HOMEIER'S PATENTED COMB.

teeth which may be broken in the comb by use. The idea of the inventor is to apply this idea to the manufacture of hard rubber combs. [George P. Homeier, No. 26 Ladd street, Akron, Ohio.]

RUBBER CLIP FOR SIGNAL ROUNDELS.

THE illustration applies to a rubber clip for roundels for railway signaling. Three rubber clips, arranged as shown in the illustration, are referred to as sufficient for roundels 6½ inches in diameter, while four clips are used on roundels of larger size. The advantage of the use of rubber as compared with putty is pointed out as likely to be welcomed by the maintainer, who in



RUBBER CLIP FOR SIGNAL ROUNDELS.

winter often is compelled to replace a broken roundel with the thermometer below zero and his putty defying all efforts to keep it soft and usable. This clip is the invention of E. J. Relph. [Guilford S. Wood, Great Northern building, Chicago.]

ANOTHER fad has been imported from the other side. This time it is in connection with the tires on automobiles. In England it is customary for the chauffeurs to prepare the tires on the car under their charge as carefully as the body. The former are carefully whitened with pipeclay, thus giving the car a very smart appearance. The rubber foot mats and spare tires also receive a daily coat of pipeclay. If one stands on Fifth avenue at Forty-second street long enough any afternoon he will learn that this stunt has made a hit in this country. Several of the companies operating taxicabs from hotels have the tires and mats on their cars rewhitened every day.—*New York Sun.*

RUBBER CLUB OF AMERICA BANQUET.

THE executive committee of the Rubber Club of America announce that the midwinter banquet of the club will be held on Wednesday evening, January 11, at Delmonico's, New York, at 6.30 P. M. The special committee appointed to plan the dinner have arranged a program that promises to be of exceptional interest. In addition to distinguished speakers who will be present as guests of the Club, prominent officials in the great rubber companies in New York, Akron, and other centers will attend and will speak. The week for which the banquet is set is notable as being that in which the great automobile exhibition will be held at Madison Square Garden, a feature that in itself will bring to New York a large gathering of men whose interests center in the rubber industry.

The admirable planning which has been done for the coming banquet has been due to the enegry and painstaking of a Committee of Arrangements—essentially a New York committee—consisting of Messrs. George B. Hodgman, Henry C. Pearson, Arthur W. Stedman, Elston E. Wadbrook, and Robert B. Baird.

[FROM THE COVER OF THE OFFICIAL ANNOUNCEMENT.]

In the sketch map of the Western Hemisphere shown here, the lower half represents a figure supporting a rubber tree, while the upper half suggests a manufacturing establishment.

Not the least interesting fact in relation to the coming banquet is that it will be the first given by the Club which its members living in and near New York can regard as a "home affair," all preceding affairs of the kind having occurred in New England. Members expecting to attend are requested to notify the secretary of the Club, Mr. George H. Mayo, No. 197 Congress street, Boston, not forgetting to say if guests will accompany them.

Among the speakers will be Mr. Creswell Maclaughlin, a noted after dinner speaker; the Hon. John Barrett, director of the Pan American Union, and Mr. H. E. Raymond.

There is to be a musical program, expected to be of unusual excellence, including special features.

AN AWARD FOR "BAKELITE."

ON November 9, 1910, the City of Philadelphia, on the recommendation of the Franklin Institute, awarded the John Scott Legacy Premium and Medal to Dr. L. H. Baekeland, of Yonkers, New York, for his invention of "Bakelite," in accordance with the report of the institution's Committee on Science and Arts, adopted May 4, 1910.

The City of Philadelphia holds in trust under the legacy of John Scott, of Edinburgh, a sum of money the interest of which is to be used for the encouragement of "ingenious men and women who make useful inventions." The legacy provides for the distribution of a medal inscribed "to the most deserving," and a money premium to such persons whose inventions shall merit the same. The examination of the inventions submitted for the medal and premium has been delegated by the Board of City Trusts, of the City of Philadelphia, to the Franklin Institute, and the institution, under the competent assistance of its Committee on Science and the Arts, undertakes to make the investigations free of charge and to recommend for the award all meritorious inventions.

FOR A RUBBER FACTORY IN BRAZIL.

AN inquiry comes to THE INDIA RUBBER WORLD, through an important export house, in behalf of a correspondent in Brazil, for details regarding the equipment necessary for the manufacture of the following lines of rubber goods: Rubber covers to protect coffee beans when lying on the ground to dry; automobile and carriage tires; tubing; nipples for nursing bottles; raincoats; elastic sides for shoes. THE INDIA RUBBER WORLD already [November 1, 1910—page 57] has had a report on a projected rubber factory near São Paulo, Brazil—an important coffee region—and it appears that the enterprise to which the inquiry mentioned in this article relates is the same as that already mentioned.

THE recent high prices obtained for crude were reflected in the profits of the Amazon Steam Navigation Co., Limited, for the year ended June 30, 1910, at the thirty-eighth annual meeting of the company, held in London on December 14. The final dividend, payable on December 20, made the total 7 per cent., or equal to the highest paid for many years; during several years not more than 4 or 5 per cent. was paid.

ADDITIONAL MARKET NOTES.

New York.

IN regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York) advises as follows: "During December there has been quite a fair demand for commercial paper, at rates somewhat lower than ruled through the fall, the best known rubber names going now at 5¼ @ 5½ per cent., and those not so well known 6 @ 6¼ per cent."

NEW YORK PRICES PER NOVEMBER (NEW RUBBER.)

	1910.	1909.	1908.
Upriver, fine	$1.36@1.52	$1.93@2.03	$1.12@1.30
Upriver, coarse	1.02@1.07	1.17@1.21	.82@1.00
Islands, fine	1.20@1.28	1.72@1.84	1.04@1.24
Islands, coarse	.73@ .75	.69@ .72	.54@ .72
Cametá	.75@ .78	.80@ .84	.56@ .72

African Rubbers.

NEW YORK STOCKS (IN TONS).

November 1, 1909	134	June 1, 1910	90
December 1	134	July 1	120
January 1, 1910	228	August 1	250
February 1	134	September 1	300
March 1	161	October 1	375
April 1	121	November 1	100
May 1	125	December 1	140

Para.

R. O. AHLERS & Co. report [November 21]:

The market is decidedly firmer, with advancing prices, large transactions having taken place for both American and European account.

R. O. AHLERS & Co. report [December 1]:

The market is steady. Holders are not anxious to sell at present prices. December receipts are not expected to be very abundant, a view which gains in probability with the news of fresh political troubles having broken out in the federal territory of the Acre.

Review of the Crude Rubber Market.

THE condition of the crude rubber market during the month has been one of quiet and weakness, with lower rates at the closing. This, however, is a period of dullness in trade generally. Not only do the holidays occurring annually at this date bring many kinds of business to a standstill, but opportunity is taken of the season for inventorying. The opinion is freely expressed in the crude rubber trade that immediately after the New Year a more active demand will develop, with an advance in prices. On the other hand will be found those who do not look for much higher prices until well nigh the end of the Pará crop season.

Arrivals at Pará (including caucho) during the first half of four crop seasons have been as follows (in tons):

	1907.	1908.	1909.	1910.
July	1,370	1,300	1,400	2,340
August	1,500	1,890	1,870	1,870
September	2,410	2,355	2,020	1,980
October	3,200	3,460	3,275	3,170
November	3,200	3,430	4,640	3,790
December	2,560	3,300	3,510	*a*1,460
Total	14,240	15,735	16,715	14,610

[*a To December* 17, 1910.]

At the London auction on December 13, at which 236 tons Malaya and 44 tons Ceylon plantation rubber was offered, there was a fair general demand, and everything sold. The sale opened with a drop of about 3*d.* to 4*d.* all round on last auction's rates; as the bidding progressed prices went still lower, and at the close the difference was about 4*d.* to 6*d.* down on the prices realized a fortnight before. The best price paid was 6*s.* 9¼*d.* [=$1.65] for smoked sheet. Good to fine sheet and biscuit sold up to 6*s.* [=$1.46].

At the Antwerp auction on December 14 the offerings and sales were as follows (in tons):

	Offered.	Sold.
Congo sorts	192	165
Other sorts—forest	72	5
Plantation sorts	55	53
Total	319	223

Although a few parcels sold at inscription prices, and others brought more, there was an average decline on the whole of about 3.88 per cent. on the prices realized at the preceding sale.

NEW YORK QUOTATIONS.

Following are the quotations at New York for Pará grades, one year ago, one month ago, and December 30—the current date:

PARA.	Jan. 1, '10.	Dec. 1, '10.	Dec. 30.
Islands, fine, new	163@164	128@129	118@119
Islands, fine, old	none here	none here	122@123
Upriver, fine, new	178@180	150@152	137@138
Upriver, fine, old	none here	152@153	140@141
Islands, coarse, new	—@ 70	72½@73½	70@ 71
Islands, coarse, old	none here	none here	none here
Upriver, coarse, new	111@112	108@109	100@101
Upriver, coarse, old	none here	none here	104@105
Cametá	79@ 80	75@ 76	72@ 73
Caucho (Peruvian), ball	101@102	105@106	99@100
Caucho (Peruvian), sheet	—@ 85	none here	none here
PLANTATION PARA.			
Fine smoked sheet	179@180	165@166	156@157
Fine pale crepe	181@182	156@157	143@144
Fine sheets and biscuits	—@ —	150@151	138@139
CENTRALS.			
Esmeralda, sausage	—@100	96@ 97	94@ 95
Guayaquil, strip	84@ 85	none here	none here
Nicaragua, scrap	97@ 98	92@ 93	89@ 90
Panama	82@ 83	none here	none here
Mexican, scrap	96@ 97	92@ 93	88@ 89
Mexican, slab	82@ 83	60@ 61	56@ 57
Mangabeira, sheet	67@ 72	75@ 76	75@ 76
Guayule	60@ 63	65@ 66	65@ 66
Balata, sheet	—@ —	—@ 80	74@ 75
Balata, block	—@ —	—@ 56	52@ 53
AFRICAN.			
Lopori, ball, prime	133@134	125@126	120@121
Lopori, strip, prime	none here	none here	none here
Aruwimi	116@117	110@111	104@105
Upper Congo, ball, red	121@122	115@116	108@109
Ikelemba	none here	none here	none here
Sierra Leone, 1st quality	—@117	124@125	119@120
Massai, red	—@117	124@125	119@120
Soudan niggers	—@106	112@113	105@106
Cameroon, ball	77@ 78	66@ 67	65@ 66
Benguela	—@ 74	85@ 86	82@ 83
Madagascar, pinky	98@ 99	none here	none here
Accra, flake	22@ 23	45@ 46	44@ 45
EAST INDIAN.			
Assam	94@ 95	none here	93@ 94
Pontianak	6@6½	5½@5¼	6@6¼
Borneo	55@ 64	none here	none here

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5$150	Upriver, fine	7$200
Islands, coarse	2$700	Upriver, coarse	5$200
		Exchange	16 5-16*d.*

Latest Manáos advices:

Upriver, fine	7$000	Exchange	16 11-16*d.*
Upriver, coarse	4$500		

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.		Total 1910.	Total 1909.	Total 1908.
Stocks, October 31.....*tons*	155	56	=	211	216	221
Arrivals, November.....	1,074	358	=	1,432	1,734	1,799
Aggregating	1,229	414	=	1,643	1,950	2,020
Deliveries, November.....	1,101	386	=	1,487	1,732	1,772
Stocks, November 30.....	128	28	=	156	218	248

	PARA.			ENGLAND.		
	1910.	1909.	1908.	1910.	1909.	1908.
Stocks, October 31..*tons*	875	230	520	1,120	230	265
Arrivals, November.....	3,550	4,370	3,230	1,098	1,220	1,646
Aggregating	4,425	4,600	3,750	2,218	1,450	1,911
Deliveries, November...	3,235	3,215	3,275	883	950	1,775
Stocks, November 30.	1,190	1,385	475	1,335	500	136

	1910.	1909.	1908.
World's visible supply, November 30..*tons*	4,591	3,757	2,362
Pará receipts, July 1 to November 30.....	11,085	11,830	11,060
Pará receipts of caucho, same dates.....	2,090	1,530	1,370
Afloat from Pará to United States, Nov. 30	420	839	700
Afloat from Pará to Europe, November 30..	1,490	815	654

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for carload lots, per pound—are slightly lower, as follows:

	December 1.	January 1.
Old rubber boots and shoes—domestic	10⅛@10¼	9½@ 9⅝
Old rubber boots and shoes—foreign	9⅞@10	9 @ 9⅛
Pneumatic bicycle tires	5½@ 5⅝	5 @ 5¼
Automobile tires	8½@ 8¾	8⅜@ 8½
Solid rubber wagon and carriage tires	9½@ 9¾	9¼@ 9½
White trimmed rubber	12 @12½	11¾@12
Heavy black rubber	6¼@ 6½	6 @ 6¼
Air brake hose	5¼@ 5⅜	5 @ 5⅛
Garden hose	2¼@ 2⅜	2 @ 2¼
Fire and large hose	2⅞@ 3	2⅞@ 3
Matting	1⅛@ 1¼	1 @ 1⅛

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

DECEMBER 5.—By the steamer *Cuthbert*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold	176,400	12,200	46,600	8,400	=243,600
General Rubber Co.	52,200	8,700	3,000	.....	= 63,900
New York Commercial Co.	8,600	1,600	5,800	300	= 16,300
William E. Peck & Co.	1,800	300	10,600	.....	= 12,700
Total	239,000	22,800	66,000	8,700	=336,500

DECEMBER 5.—By the steamer *Sergipe*, from Pará:

A. T. Morse & Co.	143,600	6,100	90,400	.....	=240,100
Poel & Arnold	57,400	6,000	90,800	21,800	=176,000
New York Commercial Co.	66,800	15,700	26,400	700	=109,600
H. A. Astlett	16,100	.....	5,900	.....	= 22,000
Hagemeyer & Brunn	7,600	.....	12,000	.....	= 19,600
Henderson & Korn	4,300	.....	11,600	.....	= 15,900
Total	295,800	27,800	237,100	22,500	=583,200

DECEMBER 15.—By the steamer *Basil*, from Manáos and Pará:

Poel & Arnold	212,100	62,300	81,400	11,100	=366,900
A. T. Morse & Co.	81,200	50,800	78,400	700	=211,100
General Rubber Co.	112,900	25,100	18,500	2,300	=158,800
New York Commercial Co.	72,500	22,200	21,900	.....	=116,600
H. A. Astlett	16,400	3,200	26,400	.....	= 46,000
C. P. dos Santos	13,900	1,800	9,900	.....	= 25,600
Hagemeyer & Brunn	.....	.....	7,800	.....	= 7,800
Henderson & Korn	.....	.....	8,000	.....	= 8,000
Total	509,000	165,400	252,300	14,100	=940,800

PARA RUBBER VIA EUROPE.

POUNDS.

Nov. 21.—By the *Carmania*=Liverpool:

N. Y. Commercial Co. (Fine)	13,000	
James T. Johnstone (Fine)	17,000	
Poel & Arnold (Coarse)	3,500	33,500

Nov. 22.—By the *Clyde*=Mollendo:

General Rubber Co. (Fine)		11,500

Nov. 25.—By the *Mauretania*=Liverpool:

N. Y. Commercial Co. (Fine)	50,000	
Poel & Arnold (Fine)	7,000	
Poel & Arnold (Caucho)	15,000	72,000

Nov. 28.—By the *Celtic*=Liverpool:

N. Y. Commercial Co. (Fine)		34,000

Dec. 3.—By the *Campania*=Liverpool:

Rubber Trading Co. (Fine)	8,000	
Robinson & Co. (Fine)	10,000	
Poel & Arnold (Coarse)	5,500	23,500

Dec. 5.—By the *Cedric*=Liverpool:

A. T. Morse & Co. (Caucho)		9,000

Dec. 7.—By the *La Gascogne*=Havre:

A. T. Morse & Co. (Coarse)		9,000

Dec. 7.—By the *President Grant*=Hamburg:

A. T. Morse & Co. (Fine)	35,000	
N. Y. Commercial Co. (Fine)	11,500	
Wallace L. Gough Co. (Fine)	10,000	56,500

Dec. 12.—By the *Caronia*=Liverpool:

N. Y. Commercial Co. (Fine)	140,000	
Henderson & Korn (Fine)	7,000	
Raw Products Co. (Coarse)	15,500	162,500

Dec. 13.—By the *Javary*=Iquitos:

H. A. Astlett (Fine)	11,500	
H. A. Astlett (Coarse)	5,000	16,500

Dec. 13.—By the *Arabic*=Liverpool:

Wallace L. Gough Co. (Fine)	5,000	
Rubber Trading Co. (Fine)	4,500	9,500

OTHER NEW YORK ARRIVALS.

CENTRALS.

[*This sign, in connection with imports of Centrals, denotes Guayule rubber.]

POUNDS

Nov. 21.—By the *Carmania*=Liverpool:

Poel & Arnold		65,000

Nov. 21.—By the *Sigismund*=Colombia:

Caballero & Blanco	4,500	
A. Held	3,000	
Maitland, Coppell & Co.	1,500	
Oglesias & Martinez	1,500	10,500

Nov. 21.—By the *El Sol*=Galveston:

Continental-Mexican Rubber Co.		*180,000

Nov. 22.—By the *Clyde*=Colombia:

Maitland, Coppell & Co.	3,500	
G. Amsinck & Co.	2,500	
L. Hagenaers & Co.	2,500	
Caballero & Blanco	2,000	
Delima Cortissoz & Co.	1,500	
Honda Commercial Co.	1,000	13,000

Nov. 22.—By the *Tennyson*=Bahia:

J. H. Rossbach & Bros.		6,500

Nov. 23.—By *El Valle*=Galveston:

Continental-Mexican Rubber Co.	*160,000	
Ed. Maurer	*22,500	
Charles T. Wilson	*11,500	*194,000

Nov. 22.—By the *Colon*=Colon:

G. Amsinck & Co.	13,000	
H. Feltman & Co.	4,000	
Isaac Brandon & Bros.	3,500	
National Sewing Machine Co.	3,000	
Piza, Nephews & Co.	2,500	
Dumarest Bros. & Co.	2,000	
A. T. Morse & Co.	2,000	
Charles E. Griffin	1,500	
Roldan & Van Sickle	1,500	
J. Sambrada Co.	1,000	
Lanman & Kemp	1,000	35,000

Nov. 25.—By the *Mauretania*=Liverpool:

Poel & Arnold		25,000

Nov. 26.—By the *Merida*=Frontera:

Harburger & Stack	3,500	
E. Steiger & Co.	2,500	
Isaac Kubie Co.	1,000	7,000

Nov. 26.—By the *Creole*=New Orleans:

Eggers & Heinlein	4,500	
Manhattan Rubber Manufacturing Co.	4,500	
A. T. Morse & Co.	2,000	
Robinson & Co.	2,000	13,000

Nov. 26.—By *El Dorado*=Galveston:

Continental-Mexican Rubber Co.		*75,000

Nov. 28.—By the *Vigilancia*=Tampico:

Ed. Maurer	*80,000	
Poel & Arnold	*35,000	
For Europe	*35,000	*150,000

Nov. 29.—By the *Allemannia*=Columbia:

Pablo Calvet & Co.	3,500	
Suzarte & Whitney	3,500	
Kunhardt & Co.	1,500	
R. Del Castillo & Co.	1,000	
Delima Cortissoz & Co.	1,000	10,500

Nov. 29.—By *El Mundo*=Galveston:

Continental-Mexican Rubber Co.	*80,000	
E. S. Churchill	*10,000	*90,000

Nov. 30.—By the *Proteus*=New Orleans:

Manhattan Rubber Manufacturing Co.	4,500	
T. N. Morgan Co.	1,000	5,500

Nov. 30.—By the *Prinz Joachim*=Colon:

A. Santos & Co.	8,000	
G. Amsinck & Co.	7,000	
Pablo Calvet & Co.	2,000	
Suzarte & Whitney	1,500	
A. Held	1,500	
Mecke & Co.	1,000	
Gillespie Bros. & Co.	1,000	
A. M. Capen's Sons	1,000	
Wessels Kulenkampff & Co.	1,000	
A. Rosenthal & Sons.	1,000	
Isaac Brandon & Co.	1,000	26,000

Dec. 1.—By *El Monte*=Galveston:

Continental-Mexican Rubber Co.	*75,000	
Ed. Maurer	*10,000	*85,000

Dec. 1.—By the *Indian Prince*=Bahia:

Adolph Hirsch & Co.		5,500

Dec. 1.—By the *Frutera*=Honduras:

A. Rosenthal & Sons.	4,000	
Silva Bussenius & Co.	1,500	5,500

Dec. 3.—By the *Campania*=Liverpool:

Rubber Import Co.		11,000

Dec. 3.—By the *Esperanza*=Mexico:

Harburger & Stack	2,000	
W. L. Wadleigh	2,000	
E. N. Tibbals & Co.	1,000	
International Products Co.	1,000	
George A. Alden & Co.	1,000	
Scholz & Marturet	1,000	
For Havre	2,000	10,000

Dec. 5.—By the *Panama*=Colon:

L. Johnson & Co.	5,000	
P. V. Rubio & Co.	3,000	
Caballero & Blanco	2,500	
A. Javanillo & Co.	2,500	
G. Amsinck & Co.	1,500	
Pablo Calvet & Co.	1,500	
A. Held	1,000	17,000

Dec. 5.—By the *Antilles*=New Orleans:

A. T. Morse & Co.	5,500	
A. N. Rotholz	5,000	
Manhattan Rubber Manufacturing Co.	2,500	
Robinson & Co.	1,500	
Eggers & Heinlein	1,000	15,500

Dec. 7.—By the *Thames*=Colombia:

J. Sambrada Co.	4,000	
Suzarte & Whitney	2,500	
Isaac Brandon & Bros.	2,500	
G. Amsinck & Co.	2,000	
New York Commercial Co.	3,500	14,500

Dec. 7.—By the *President Grant*=Hamburg:

Ed. Maurer		*55,000

Dec. 7.—By the *Bayamo*=Tampico:

Ed. Maurer	*125,000	
New York Commercial Co.	*135,000	
Poel & Arnold	*35,000	
For Europe	*105,000	*400,000

Dec. 8.—By *El Rio*=Galveston:

Continental-Mexican Rubber Co.	*150,000	
E. S. Churchill	*10,000	*160,000

Dec. 9.—By the *Voltaire*=Bahia:

A. D. Hitch & Co.	4,500	
J. H. Rossbach & Bros.	3,000	7,500

Dec. 12.—By the *Seguranca*=Tampico:

Ed. Maurer	*100,000	
Continental-Mexican Rubber Co.	*75,000	
New York Commercial Co.	*70,000	*245,000

Dec. 12.—By the *Allianca*=Colon:

G. Amsinck & Co.	4,000	
J. H. Rossbach & Bros.	2,000	
Lazard Freres	1,500	
R. Fabien & Co.	1,500	
A. Rosenthal & Sons.	1,000	10,000

Dec. 14.—By *El Sol*=Galveston:

Continental-Mexican Rubber Co.	*135,000	
E. S. Churchill	*15,000	*150,000

Dec. 14.—By the *Prinz August Wilhelm*=Colon:

Delima Cortissoz & Co.	2,000	
A. Rosenthal & Sons.	1,500	
Eggers & Heinlein	1,500	
Isaac Brandon & Bros.	1,500	6,500

Dec. 15.—By the *Stavangeren*=Bluefields:

Manhattan Rubber Manufacturing Co.		6,000

Dec. 16.—By *El Valle*=Galveston:

Continental-Mexican Rubber Co.		*95,000

Dec. 17.—By the *Colon*=Colon:

H. Mann & Co.	9,000	
G. Amsinck & Co.	7,000	
Dumarest Bros. & Co.	2,500	
Roldan & Van Sickle	2,000	
New York Commercial Co.	2,000	
L. Johnson & Co.	1,500	
P. V. Rubio & Co.	1,000	
A. Rosenthal & Sons.	1,000	26,000

AFRICAN.

POUNDS.

Nov. 21.—By the *Matea*=Lisbon:

General Rubber Co.		56,000

Nov. 21.—By the *Carmania*=Liverpool:

George A. Alden & Co.	20,000	
Rubber Trading Co.	11,000	31,000

Nov. 21.—By the *Baltic*=Liverpool:

George A. Alden & Co.	30,000	
Raw Products Co.	9,000	
James T. Johnstone	1,500	40,500

Nov. 22.—By the *Chicago*=Havre:

A. T. Morse & Co.	40,000	
Raw Products Co.	5,000	45,000

Nov. 22.—By the *Kroonland*=Antwerp:

Raw Products Co.	8,000	
Livesey & Co.	5,500	13,500

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

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Our product of this article has qualities in the way of uniformity, ability of absorbing the mineral pigments and rapid milling properties, not possessed by competitive articles, and coupled with these the price is somewhat lower than the others, although this last fact we claim is our poorest argument. Why—you should investigate.

The very largest concerns in this country are numbered among our customers and we should be pleased to furnish you gratis working samples, and to go into details in the way of offering you manipulation suggestions if you would but write us you are ready and willing to entertain them. May we have that pleasure?

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97 WATER STREET . NEW YORK

Nov. 23.—By the *Cleveland*=Hamburg:

Poel & Arnold	22,500	
George A. Alden & Co.	22,000	44,500

Nov. 23.—By the *Oceanic*=London:

George A. Alden & Co.		15,500

Nov. 25.—By the *Batavia*=Hamburg:

Wallace L. Gough Co.	22,500	
Rubber Trading Co.	11,500	
A. T. Morse & Co.	11,500	
George A. Alden & Co.	5,500	
For Boston	8,000	59,000

Nov. 25.—By the *Mauretania*=Liverpool:

George A. Alden & Co.	34,000	
A. T. Morse & Co.	25,000	59,000

Nov. 28.—By the *Celtic*=Liverpool:

George A. Alden & Co.		56,000

Nov. 29.—By the *Kaiserin Auguste Victoria*=Hamburg:

Poel & Arnold	18,000	
General Rubber Co.	6,000	
Raw Products Co.	5,500	
Wallace L. Gough Co.	4,500	34,000

Dec. 1.—By the *Gothland*=Antwerp:

George A. Alden & Co.	45,000	
A. T. Morse & Co.	11,500	
Poel & Arnold	11,000	
Robinson & Co.	8,000	75,500

Dec. 3.—By the *Campania*=Liverpool:

Rubber Trading Co.	11,000	
Poel & Arnold	5,500	16,500

Dec. 5.—By the *Cedric*=Liverpool:

A. T. Morse & Co.	18,000	
James T. Johnstone	7,000	
George A. Alden & Co.	5,500	30,500

Dec. 5.—By the *Lapland*=Antwerp:

Poel & Arnold	30,000	
Livesey & Co.	25,000	
A. T. Morse & Co.	13,500	
Joseph Cantor	8,000	
Robert Badenhop	9,000	85,500

Dec. 7.—By *La Gascogne*=Havre:

A. T. Morse & Co.	67,000	
Livesay & Co.	22,500	89,500

Dec. 7.—By the *Adriatic*=Havre:

Livesey & Co.		11,500

Dec. 7.—By the *President Grant*=Hamburg:

George A. Alden & Co.	65,000	
A. T. Morse & Co.	30,000	
Wallace L. Gough Co.	13,500	
Rubber Trading Co.	15,000	
Raw Products Co.	22,500	
Poel & Arnold	5,500	151,500

Dec. 12.—By the *Caronia*=Liverpool:

George A. Alden & Co.	40,000	
Rubber Trading Co.	5,000	
Poel & Arnold	2,000	47,000

Dec. 12.—By the *Philadelphia*=London:

George A. Alden & Co.		25,000

Dec. 13.—By the *Arabic*=Liverpool:

Rubber Trading Co.	33,000	
George A. Alden & Co.	16,000	
A. T. Morse & Co.	5,000	54,000

Dec. 15.—By the *Samland*=Antwerp:

Wallace L. Gough Co.	3,500	
Poel & Arnold	2,500	
Raw Products Co.	2,000	8,000

EAST INDIAN.

[*Denotes plantation rubber.]

Nov. 21.—By the *St. Louis*=London:

	Pounds.	
New York Commercial Co.	*55,000	

Nov. 21.—By the *St. Patrick*=Singapore:

Ed. Maurer	*5,000	
Poel & Arnold	25,000	
Wallace L. Gough Co.	15,000	
Haebler & Co.	25,000	70,000

Nov. 22.—By the *Mesaba*=London:

James T. Johnstone	*22,500	
Ed. Maurer	*13,500	*36,000

Nov. 22.—By the *Kroonland*=Antwerp:

A. T. Morse & Co.	*45,000	
Robert Badenhop	13,500	58,500

Nov. 23.—By the *Oceanic*=London:

New York Commercial Co.	*30,000	
Poel & Arnold	*15,000	
Wallace L. Gough Co.	*4,500	*49,500

Nov. 25.—By the *Mauretania*=Liverpool:

Henderson & Korn		*4,500

Nov. 25.—By the *Comeric*=Colombo:

New York Commercial Co.	*85,000	
A. T. Morse & Co.	*35,000	*120,000

Nov. 26.—By the *Minnewaska*=London:

General Rubber Co.		*90,000

Nov. 28.—By the *New York*=London:

Poel & Arnold	*15,000	
A. T. Morse & Co.	*11,000	
Henderson & Korn	*4,500	
New York Commercial Co.	*3,500	*34,000

Nov. 28.—By the *Birkenfels*=Colombo:

A. T. Morse & Co.	*33,500	
New York Commercial Co.	*27,000	*60,500

Dec. 1.—By the *Gothland*=Antwerp:

A. T. Morse & Co.		*17,000

Dec. 1.—By the *Majestic*=London:

Poel & Arnold	*40,000	
New York Commercial Co.	*15,000	*55,000

Dec. 1.—By the *Welsh Prince*=Singapore:

Wallace L. Gough Co.		11,000

Dec. 2.—By the *Walton Hall*=Colombo:

New York Commercial Co.	*30,000	
A. T. Morse & Co.	*11,500	*41,500

Dec. 5.—By the *Lapland*=Antwerp:

A. T. Morse & Co.		*75,000

Dec. 5.—By the *Minneapolis*=London:

James T. Johnstone	*11,500	
Ed. Maurer	*13,500	*25,000

Dec. 5.—By the *St. Paul*=London:

Poel & Arnold	*15,000	
New York Commercial Co.	*14,000	
Poel & Arnold	25,000	54,000

Dec. 12.—By the *Caronia*=Liverpool:

Henderson & Korn		*9,000

Dec. 12.—By the *Minnehaha*=London:

General Rubber Co.		*90,000

Dec. 12.—By the *Philadelphia*=London:

Poel & Arnold		*4,500

Dec. 12.—By the *Matoppo*=Colombo:

New York Commercial Co.	*55,000	
A. T. Morse & Co.	*25,000	*80,000

Dec. 16.—By the *Teutonic*=London:

New York Commercial Co.	*45,000	
Poel & Arnold	*22,500	
A. T. Morse & Co.	*11,500	*79,000

GUTTA-JELUTONG.

Nov. 21.—By the *St. Patrick*=Singapore:

	Pounds.	
Haebler & Co.	1,000,000	
L. Littlejohn & Co.	1,000,000	
Wallace L. Gough Co.	225,000	
Rubber Import Co.	170,000	
George A. Alden & Co.	55,000	2,450,000

Dec. 1.—By the *Welsh Prince*=Singapore:

L. Littlejohn & Co.	800,000	
Haebler & Co.	700,000	
Wallace L. Gough Co.	350,000	
Poel & Arnold	225,000	
Rubber Import Co.	150,000	
George A. Alden & Co.	55,000	2,280,000

GUTTA-PERCHA.

Nov. 21.—By the *St. Patrick*=Singapore:

	Pounds.
Ed. Maurer	22,500

Nov. 28.—By the *Kaiserin Auguste Victoria*=Hamburg:

Robert Soltau & Co.	8,000

Dec. 1.—By the *Welsh Prince*=Singapore:

Haebler & Co.	22,500

Dec. 3.—By the *Campania*=Liverpool:

Earle Brothers	5,500

Dec. 7.—By the *President Grant*=Hamburg:

Robert Soltau & Co.	9,000

BALATA.

	Pounds.	
J. A. Pauli & Co.	6,000	
Ed. Maurer	3,500	
De Sola Bros. & Pardo	1,500	10,000

Dec. 6.—By the *Marowijne*=Trinidad:

J. A. Pauli & Co.	5,500	
R. A. Watson Co.	1,500	
Middleton & Co.	1,000	
Graham, Hinkley & Co.	1,000	9,000

Dec. 12.—By the *Minnehaha*=London:

Ed. Maurer	25,000

Dec. 15.—By the *Parima*=Demerara:

American Trading Co.	5,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—NOVEMBER.

Imports:	Pounds.	Value.
India-rubber	6,114,103	$5,582,302
Balata	63,187	39,612
Gutta-percha	134,499	28,300
Gutta-jelutong (Pontianak)	3,108,117	191,861
Guayule	1,073,564	443,206
Total	10,493,470	$6,285,281
Exports:		
India-rubber	207,847	$247,762
Balata	2,983	3,096
Gutta-percha	....	....
Guayule	1,085	560
Reclaimed rubber	119,522	13,192
Rubber scrap imported	1,412,039	$123,287
Rubber scrap exported	234,515	31,050

BOSTON ARRIVALS.

Oct. 7.—By the *Ghasee*=Singapore:

State Rubber Co. (East Indian)	11,500	
State Rubber Co. (Jelutong)	725,000	
L. Littlejohn & Co. (Jelutong)	115,000	
Geo. A. Alden & Co. (Jelutong)	56,000	907,500

Oct. 12.—By the *Zeeland*=Liverpool:

Poel & Arnold (African)		3,000

Oct. 24.—By the *Winifredan*=Liverpool:

George A. Alden & Co. (African)		5,000

Oct. 28.—By the *Kennebec*=Singapore:

State Rubber Co. (East Indian)	17,000	
Haebler & Co. (Jelutong)	315,000	
State Rubber Co. (Jelutong)	220,000	552,000

PARA EXPORTS OF INDIA RUBBER, OCTOBER, 1910 (In KILOGRAMS).

EXPORTERS.	NEW YORK. Fine.	Medium.	Coarse.	Caucho.	TOTAL.	EUROPE. Fine.	Medium.	Coarse.	Caucho.	TOTAL.	TOTAL.
Gruner & Co.	29,410	2,720	51,510	376	84,016	94,592	7,998	20,269	.....	122,859	206,875
Scholz, Hartje & Co.	20,356	1,658	4,684	330	27,028	22,440	850	.....	.....	23,290	50,318
E. Pinto Alves & Co.	218,790	107	107,005	127	326,029	38,835	1,172	264	19,140	59,411	385,440
J. Marques	.....	.....	.....	.....	.....	98,600	8,500	33,990	.....	141,090	141,090
Adelbert H. Alden, Ltd.	55,973	4,765	18,217	547	79,502	.....	.....	.....	.....	.....	79,502
Suarez Hermanos & Co.	.....	.....	.....	.....	.....	23,772	1,600	3,847	38,596	67,815	67,815
R. O. Ahlers & Co.	2,223	.....	.....	9,323	11,546	30,753	.....	3,957	2,039	36,749	48,295
Pires Teixeira & Co.	.....	.....	.....	.....	.....	7,140	.....	4,290	.....	11,430	11,430
Sundries	16,660	3,740	14,390	.....	34,790	5,270	680	8,910	.....	14,860	49,650
Itacoatiara direct	1,249	122	1,088	64	2,523	2,901	.....	1,761	.....	4,662	7,185
Manáos direct	360,722	83,124	84,236	44,350	572,432	383,734	60,991	44,442	44,129	533,296	1,105,728
Iquitos direct	12,209	585	6,664	.....	19,458	237,144	7,702	69,564	115,176	429,586	449,044
Total, October, 1910	717,592	96,821	287.794	55,117	1,157,324	945,181	89,493	191,294	219,080	1,445,048	2,602,372
Total, September, 1910	541,146	72,771	330,839	96,081	1,040,837	430,389	83,973	66,304	225,445	806,111	1,846,948
Total, August, 1910	412,669	72,026	316,228	95,408	896,331	566,371	60,911	79,674	349,635	1,056,591	1,952,922
Total, July, 1910	221,719	30,220	268,507	181.195	701,641	480,197	54,589	164,570	380,247	1,079,603	1,781,244

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Plantation Rubber from the Far East.

EXPORTS OF CEYLON GROWN RUBBER.

[From January 1 to November 7, 1909 and 1910. Compiled by the Ceylon Chamber of Commerce.]

	1909.	1910.
To Great Britain ..... *pounds*	643,804	1,261,117
To United States	359,162	1,213,500
To Canada		1,911
To Belgium	31,018	39,993
To Germany	18,753	12,184
To Australia	8,893	4,604
To Italy	608	841
To Japan	....	448
To France	1,639	....
To China	1,508	....
Total	1,065,385	2,534,598

[Same period 1908—616,948 pounds; same 1907—413,031.]

EXPORTS FROM THE FEDERATED MALAY STATES.

[For the first nine months of 1910. Reported by the Commissioner of Trade and Customs.]

	Pounds.
Perak	1,649,269
Selangor	5,730,328
Negri Sembilan	956,804
Pahang	3,359
Total, to September 30, 1910	8,339,760
Total, 9 months, 1909	4,050,282

TOTAL EXPORTS FROM MALAYA.

[From January 1 to dates named. Reported by Barlow & Co., Singapore. These figures include the production of the Federated Malay States, but not of Ceylon.]

FROM—	1908.	1909.	1910.
Singapore (to Nov. 4) .. *pounds*	1,672,116	2,068,008	2,980,439
Penang (to Oct. 15)	1,114,790	1,810,013	1,826,149
Port Swettenham (to Oct. 13) ..	.....	.....	6,500,709
Total	2,786,906	3,878,021	11,307,297

Antwerp.

RUBBER ARRIVALS FROM THE CONGO.

NOVEMBER 26.—By the steamer *Mandingo:*

Bunge & Co.	(Société Générale Africaine) *kilos*	77,500	
Do	(Chemins de fer Grands Lacs)	3,700	
Do	(Comité Special Katanga)	7,200	
Do	(Comptoir Commercial Congolais)	20,300	
Do	(Société Anversoise)	370	
Do	(Cie. du Kasai)	64,700	
Société Coloniale Anversoise	(Belge du Haut Congo)	2,800	
Do	(Plantation Lacourt)	430	
L. & W. Van de Velde		3,000	
Willaert Fréres		1,500	
Cassart & Henrion		100	181,600

RUBBER STATISTICS FOR SEPTEMBER.

DETAILS.	1910.	1909.	1908.	1907.	1906.
Stocks, August 31. *kilos*	536,560	244,851	874,514	740,514	686,867
Arrivals in September.	271,042	408,469	189,424	562,889	318,778
Congo sorts	211,578	334,265	142,743	490,090	259,072
Other sorts	59,464	74,204	46,681	72,799	59,706
Aggregating	807,602	653,320	1,063,938	1,303,403	1,005,645
Sales in September	226,694	255,866	409,777	584,398	438,962
Stocks, September 30	580,908	397,454	654,161	719,005	566,683
Arrivals since Jan. 1	3,029,395	3,571,153	3,663,163	4,064,354	4,252,505
Congo sorts	2,350,698	2,659,293	3,095,954	3,476,334	3,257,915
Other sorts	678,697	911,860	567,209	588,020	994,590
Sales since Jan. 1	2,989,997	3,769,434	4,015,896	4,003,533	4,421,009

Rubber Receipts at Manaos.

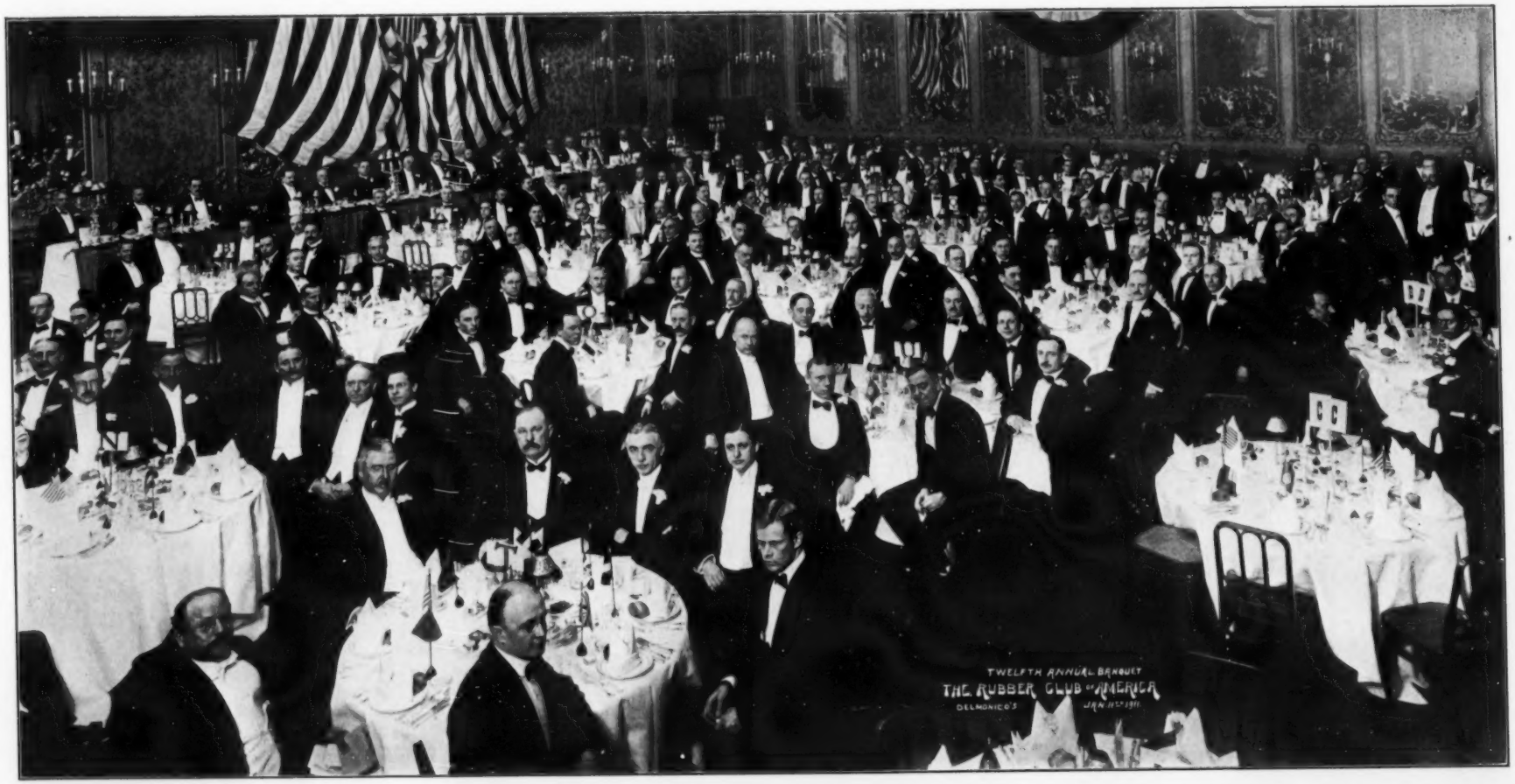
DURING October and four months of the crop season, for three years (courtesy of Messrs. Scholz & Co.):

	OCTOBER.			JULY-OCTOBER.		
FROM—	1910.	1909.	1908.	1910.	1909.	1908.
Rio Purús-Acre ..... *tons*	1,440	624	1,113	2,710	1,896	2,515
Rio Madeira	290	586	304	944	1,328	1,175
Rio Juruá	128	324	180	432	619	598
Rio Javary-Iquitos	497	707	383	769	1,034	896
Rio Solimões	206	100	152	401	240	253
Rio Negro	1	10	6	1	14	6
Total	2,562	2,351	2,138	5,257	5,131	5,443
Caucho	356	415	214	874	1,176	846
Total	2,918	2,766	2,352	6,131	6,307	6,289
For Shipment from						
Manáos	2,054	2,190	1,632	4,772	5,261	4,893
Pará	864	576	720	1,359	1,046	1,396
Total	2,918	2,766	2,352	6,131	6,307	6,289

Liverpool.

WILLIAM WRIGHT & Co., report [December 1]:

Fine Pará.—The market has been steady and subject to less violent fluctuations, prices have in the main advanced 5*d.* to 6*d.* per pound, closing steady at the advance. A fair trade has been done with manufacturers, but America still continues to buy sparingly, prices now seem to be on a safe level, and any American demand would result in an advance. Sellers are still chary of offering for delivery. Closing values.—Upriver, 6*s.* 3*d.* [=$1.54]; Island, 5*s* 6½*d.* [=$1.35]. The Brazil receipts are considerably less than last year, up to date there is a shortage in the crop (including caucho) of 500 tons. Receipts for the month are 3,790 tons, including 260 tons caucho, against 3,170 tons last month, and 4,640 tons last year, bringing the crop up to date to 13,140 tons, against 13,200 tons last season.



TWELFTH ANNUAL BANQUET OF THE RUBBER CLUB OF AMERICA

AT DELMONICO'S, NEW YORK, JANUARY 11, 1911.

Photographed for THE INDIA RUBBER WORLD by Drucker.